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ABSTRACT

Intended to help reading-limited students meet course objectives, these 11 modules are based on instructional materials in cosmetology that have a higher readability equivalent. Modules cover bacteriology, chemical waving, scalp and hair massage, chemistry, hair shaping, hairstyling, chemical hair relaxing, hair coloring, skin and scalp, trichology, and state board exam review. Each module programed on an Apple II microcomputer begins with a vocabulary and glossary section, followed by reading passages and visual reinforcements, and concludes with questions that check student comprehension. The final page of each lesson lists correct answers and refers students to the page within the text where the answer appears. Additional worksheets are provided following the lessons. While the lessons are designed primarily for use through interaction with a computer, the written text may be of use in and of itself. The lessons can also serve as review materials for topics covered in cosmetology courses. An epilogue contains a fact sheet, directions for student use, and references. (YLB)

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ED235329

COSMETOLOGY

Computerized Learning Modules

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CE 037112

State Project Number 81-3A-9111GS

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Many of the definitions and illustrations used are taken from the Standard Textbook of Cosmetology. We wish to thank the Milady Publishing Corporation for their help and cooperation in the development of this project.

Modules included herein were written for use by educational agencies and are available free of charge upon written request. Their use in any profit making setting is strictly prohibited.

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Appreciation

To initiate a project of this nature requires the understanding and support of varied resource people. I would like to give particular thanks to these people for their interest and support: to Barbara Jones with whose help the original grant proposal was developed; T.R. Severance, President of Milady Publishing Corporation who rendered professional expertise to the graphics and text; to Michele Van Arnam for her thoughtful advice and help in editing the numerous draft copies; to Susan Grzenda who offered art and layout design ideas which greatly contributed to the aesthetic value of the publication; and to Edward Nicholson, "press agent" and mentor, for his enthusiastic support to the subject of this project. I am also grateful for the many suggestions made by the nearly two hundred cosmetology students who used the modules.

The State Education Department, Staff of the Office of Occupational and Continuing Education was most generous in providing a grant to support the development and writing of this document over a two year period.

Preface

In the course of occupational instruction, much material is covered through the student's reading of technical textbooks, vocational handbooks, manuals and trade journals. These materials were not written with the poorer reader in mind and often have a readability equivalent to that of a college text. As a result, many students have suffered setbacks in their occupational training because of reading deficiencies.

A VEA Grant (State Grant No. 81-3A-9111GS) was submitted and funded so that materials in cosmetology could be rewritten to better approximate students' abilities. The revision of these materials has allowed "reading limited" students to meet course objectives they would have otherwise been unable to achieve. The modules also allow cosmetology students to gain or review information in a concise manner through interaction with a microcomputer.

This document is comprised of eleven modules based on instructional materials in the area of cosmetology. Each module programmed on an Apple II Microcomputer begins with a vocabulary and glossary section, followed by reading passages and visual reinforcements, and concludes with questions which check student comprehension. Additional worksheets are also provided to supplement and insure content mastery.

Thus, these modules, which were developed for use in the Occupational Resource Center, can assist students in mastering vocational course objectives when the activity involves reading. The Computerized Learning Modules provide a meaningful approach to the learning of content area material, and it is hoped that they will serve as examples so that the program may be expanded to other occupational subject areas.

Note to Instructor

While the lessons contained in this program were designed primarily for use through interaction with a microcomputer , the written text contained herein may be of use in and of itself. In situations where a computer is not available, the lessons can serve as review materials for topics covered in cosmetology courses. In order that you may use these lessons most successfully, please be aware of instructional aids which accompany this printed copy of the computer modules for cosmetology students.

The text is organized so that a list of vocabulary words precedes each lesson. These are the technical and non-technical terms necessary for the mastery of the lesson. Prior to the use of the computer modules it is suggested that the instructor familiarize students with these words and their pronunciation. Glossary sections are provided to aid in this process.

Located in the section immediately following each lesson, the glossary divides each word into syllables, gives a definition and places the word within the context of a sentence.
NOTE: Glossary entries have been authenticated using the Random House Dictionary of the English Language (Unabridged Edition).

As each lesson is completed, student comprehension is checked. The exercise questions are phrased to emphasize key points and to aid in evaluating the technical information.

The final page of each lesson lists correct answers and refers students to the page within the text where the answer appears.

For further review, you may wish to use the supplementary worksheets provided with this document on an individual, small group, or full class situation. Answer keys are given.

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Bacteriology

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

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KATHY FINNERTY

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****

BACTERIOLOGY-TYPES OF BACTERIA

VOCABULARY:

BACTERIOLOGY

BACTERIA

MICROORGANISMS

MICROBES

PROCEDURE

SANITIZE

STERILIZE

INFECTED

PAGE 3

VOCABULARY (CONTINUED)

CONTAGIOUS

NON-PATHOGENIC

BENEFICIAL

DECOMPOSE

ORGANISMS

SAPROPHYTE

PATHOGENIC

PARASITE

****

PAGE 4

BACTERIOLOGY IS THE SCIENCE THAT STUDIES MICROORGANISMS CALLED BACTERIA. BACTERIA ARE VERY TINY, ONE-CELLED VEGETABLE MICROORGANISMS THAT EXIST EVERYWHERE. CERTAIN KINDS OF BACTERIA CAUSE DISEASE.

PAGE 5

COSMETOLOGISTS ARE RESPONSIBLE FOR THE PROTECTION OF THEIR OWN HEALTH AS WELL AS THEIR PATRONS' HEALTH. THE COSMETOLOGIST MUST BE VERY CAREFUL TO CLEAN, SANITIZE AND STERILIZE THE EQUIPMENT USED ON PATRONS. UNLESS PROPER SANITARY PROCEDURES ARE FOLLOWED, CONTAGIOUS DISEASES MAY SPREAD FROM ONE PERSON TO ANOTHER, OR BY CONTACT

****

PAGE 6

WITH INFECTED OBJECTS.

THERE ARE TWO TYPES OF BACTERIA, NON-PATHOGENIC AND PATHOGENIC.

NON-PATHOGENIC ORGANISMS ARE BENEFICIAL AND HARMLESS. THEY ARE USED TO DECOMPOSE WASTE MATERIALS. SAPROPHYTES ARE NON-PATHOGENIC ORGANISMS WHICH LIVE ON DEAD MATTER.

PAGE 7

PATHOGENIC ORGANISMS ARE HARMFUL

BECAUSE THEY PRODUCE DISEASE.

PARASITES ARE DISEASE-PRODUCING ORGANISMS, WHICH LIVE ON OTHER LIVING PLANTS OR ANIMALS. COSMETOLOGISTS MUST KEEP EQUIPMENT CLEAN TO DESTROY PATHOCENIC ORGANISMS.

****

PAGE 8

BACTERIA ARE LIVING ORGANISMS, AND MUST HAVE FAVORABLE CONDITIONS TO GROW AND REPRODUCE. EQUIPMENT THAT CONTAINS DUST OR DIRT WOULD PROVIDE SUCH AN ENVIRONMENT.

PAGE 9

1. THE TYPE OF BACTERIA WHICH IS HARMLESS AND BENEFICIAL IS ---.

A. PATHOGENIC

B. NON-PATHOGENIC

C. PARASITIC

****

PAGE 10

2. BACTERIOLOGY IS THE STUDY OF -----.

A. BACTERIA

B. EQUIPMENT

C. SANITATION

D. A SALON

PAGE 11

3. DISEASE CAN BE SPREAD TO A CUSTOMER IF -----.

A. COMBS ARE SANITIZED

B. CURLERS ARE THROWN AWAY AFTER EACH USE

C. COMBS AND BRUSHES ARE NOT CLEANED PROPERLY

D. COMBS ARE STERILIZED

****

PAGE 12

4. STERILIZATION AND SANITATION ARE NECESSARY -----.

A. TO DESTROY BACTERIA

B. TO CAUSE DISEASE

C. TO PROTECT THE CUSTOMER

D. BOTH A AND C ARE CORRECT

PAGE 13

5. GERMS AND MICROBES ARE OTHER NAMES FOR BACTERIA. BACTERIA ARE CALLED MICROORGANISMS BECAUSE -----.

A. THEY ARE NOT VEGETABLE ORGANISMS

B. THEY ARE ANIMAL ORGANISMS

C. THEY CANNOT BE SEEN WITH THE EYE ALONE. YOU NEED TO LOOK THROUGH A MICROSCOPE TO SEE THEM.

D. BOTH A AND C ARE CORRECT

****

PAGE 14

6. SAPROPHYTES ARE NECESSARY BACTERIA. THEIR FUNCTION IS TO BREAK DOWN WASTE MATERIALS. ---

A. TRUE

B. FALSE

PAGE 15

7. A PARASITE -----.

A. LIVES ON DEAD MATTER

B. LIVES ON LIVING MATTER

****

PAGE 16

8. HARMFUL ORGANISMS ARE WHAT TYPE OF BACTERIA? -----

A. PATHOGENIC

B. NON-PATHOGENIC

C. SAPROPHYTES

PAGE 17

	ANSWERS	PAGE REF.
1	B	6
2	A	4
3	C	5
4	D	5
5	C	4
6	A	6
7	B	7
8	A	7

BACTERIOLOGY - TYPES OF BACTERIA

FOOTNOTES

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PAGE 6
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BACTERIOLOGY - TYPES OF BACTERIA

GLOSSARY

BACTERIA

bac te ri a

Single-celled microscopic organisms also called germs or microbes.

There are hundreds of different kinds of bacteria.

BACTERIOLOGY

bac te ri ol o gy

The science that studies germs, microbes or bacteria.

Bacteriology is the science or study of bacteria.

BACTERIUM

bac te ri um

Singular form of bacteria. A single-celled microscopic organism.

The bacterium was not visible to the naked eye.

BENEFICIAL

ben e fi cial

Favorable.

Beneficial bacteria perform many useful functions such as decomposing refuse and improving the fertility of the soil.

CONTAGIOUS

con ta gious

Spread by contact.

A cold is contagious.

DECOMPOSE

de com pose

Rot away.

Non-pathogenic organisms are used to decompose waste materials.

INFECTED

in fec ted

The body has been invaded by disease germs. Disease germs are present in the body.

The cut on Abbie's hand became <u>infected</u>.

MICROBES

mi crobes

Another name for germs or bacteria.

There are harmless <u>microbes</u> in everyone's body.

MICROORGANISMS

mi cro or gan isms

Plants or animals that can only be seen under a microscope.

Bacteria are <u>microorganisms</u>.

NON-PATHOGENIC

non - path o gen ic

Bacteria which is harmless or beneficial.

Non-pathogenic organisms constitute (make up) the majority of all bacteria.

ORGANISM

or gan ism

A living thing.

Parasites are disease-producing organisms, which live on other living plants or animals.

24

PARASITE

par a site

Living bacteria which live on other living plants or animals.

A tapeworm is a parasite.

PATHOGENIC BACTERIA

path o gen ic bac te ri a

Harmful bacteria.

Pathogenic bacteria produce disease.

PROCEDURE

pro ce dure

A method or course of action.

A strict procedure is needed to sterilize instruments used by a cosmetologist.

SAPROPHYTE

sap ro phyte

Bacteria that live on dead matter and do not produce disease.

Saprophytes decompose waste material.

SANITIZE

san i tize

To make clean; kills some bacteria.

It is necessary to sanitize the implements used in the beauty salon.

STERILIZE

ster i lize

To destroy or kill all germs.

Dry heat (baking) is used in hospitals to sterilize sheets, towels, gauze and cotton.

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PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

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PAGE 2

CLASSIFICATION OF HARMFUL BACTERIA

PATHOGENIC

MICROORGANISM

DISTINCT

STAPHYLOCOCCI

ABSCESS

DIPLOCOCCI

PNEUMONIA

STREPTOCOCCI

BLOOD POISONING

PAGE 3

VOCABULARY: (CONTINUED)

BACILLI

TETANUS

TUBERCULOSIS

SPORES

PROTECTIVE SHELL COVER

DESTRUCTION

SPIRILLA

CORKSCREW SHAPE

SYPHILIS

****

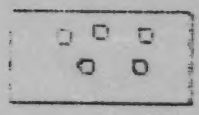
PAGE 4

WHEN YOU LOOK UNDER A MICROSCOPE, YOU WILL SEE THAT BACTERIA HAVE VERY DISTINCT FORMS OR SHAPES. PATHOGENIC BACTERIA ARE CLASSIFIED IN THREE CATEGORIES. THESE THREE CATEGORIES ARE:

1. COCCI,
2. BACILLI; AND
3. SPIRILLA.

PAGE 5
FIGURE 1

CATEGORY ONE



COCCI are round organisms. They may be individual or grouped together. Staphylococci, diplococci, and streptococci are categories of cocci pathogenic bacteria.

****

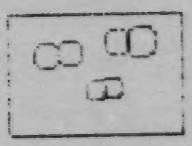
TYPES OF COCCI BACTERIA

STAPHYLOCOCCI grow in clusters or bunches. They form pus in abscesses or boils.

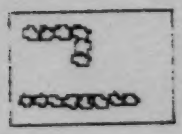
****

PAGE 6
FIGURE 2

TYPES OF COCCI BACTERIA



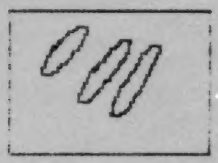
DIPLOCOCCI grow in pairs, and can cause pneumonia.



STREPTOCOCCI grow in chains of cocci. Streptococci are present in blood poisoning.

PAGE 7
FIGURE 3

CATEGORY TWO

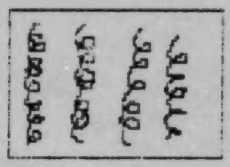


BACILLI are rod-shaped microorganisms. Bacilli are the most common form of pathogenic bacteria and can produce flu, tetanus and tuberculosis. Some bacilli produce spores, which are tiny cells that can develop into new organisms. Spores are a way to reproduce more bacteria. The spore has a protective shell covering.

****

PAGE 8
FIGURE 4

CATEGORY THREE



SPIRILLA are shaped like corkscrews. One form of this bacteria will cause syphilis.

PAGE 9

1. THE NAME OF THE ROD SHAPED MICROORGANISMS THAT CAN CAUSE THE FLU IS -----.

A. COCCI

B. BACILLI

C. SPIRILLA

****

PAGE 10

2. STAPHYLOCOCCI, DIPLOCOCCI AND STREPTOCOCCI BELONG TO THE ----- CATEGORY OF PATHOGENIC BACTERIA.

A. COCCI

B. BACILLI

C. SPIRILLA

PAGE 11

3. THE TINY CELLS WITH A PROTECTIVE SHELL THAT REPRODUCE ARE CALLED -----.

A. NON-PATHOGENIC

B. SPIRILLA

C. SPORES

****

PAGE 12

4. THE CORKSCREW SHAPED BACTERIA WHICH ARE VERY HARMFUL ARE CALLED -----.

A. SPIRILLA

B. BACILLI

C. COCCI

PAGE 13

	ANSWERS	PAGE REF.
1	B	7
2	A	5
3	C	7
4	A	8

****

CLASSIFICATION OF HARMFUL BACTERIA

FOOTNOTES

PAGE 5
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IBID.

CLASSIFICATIONS OF HARMFUL BACTERIA

GLOSSARY

BACILLI

ba cil li

Rod-shaped bacteria that are pathogenic.

Many bacilli are spore-producing organisms.

COCCI

coc ci

Round-shaped pathogenic bacteria.

Cocci are spherical organisms which appear singularly or in groups.

DESTRUCTION

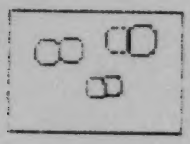
de struc tion

To ruin, kill or wreck.

Sterilization is the process of making an object germ-free by the destruction of all kinds of bacteria, whether beneficial or harmful.

DIPLOCOCCI

dip lo coc ci



A form of cocci bacteria that grows in pairs.

Diplococci bacteria cause pneumonia.

DISTINCT

dis tinct

Separate, different, very individual.

Spirilla are recognized under the microscope because of their distinct shape.

MICROORGANISM

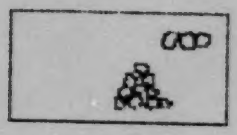
mi cro or gan ism

A very small living plant or animal seen only through the use of a microscope.

Bacteria are minute, one-celled vegetable microorganisms.

STAPHYLOCOCCI

staph y lo coc ci

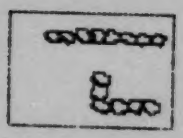


Round-shaped bacteria which are grouped in clusters like a bunch of grapes.

Staphylococci are pus-forming organisms present in abscesses or boils.

STREPTOCOCCI

strep to coc ci



Pus-forming round bacteria that look, under the microscope, like a string of beads.

Streptococci bacteria cause the general infection of blood poisoning.

SYPHILIS

syph i lis

An infectious disease caused by spirilla.

Syphilis is a contagious disease.

PATHOGENIC

path o gen ic

Harmful bacteria that can cause disease.

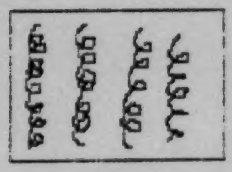
Pathogenic bacteria produce considerable damage by invading plant or animal tissue.

SPIRILLA

spi ril la

A corkscrew-shaped bacteria.

Spirilla bacteria cause the disease syphilis.



SPORES

spores

Tiny bacterial bodies having protective walls to withstand unfavorable conditions.

Spores in their inactive stage can be blown about in the air or dust.

TETANUS

tet a nus

An infectious disease caused by bacteria entering the body through a wound.

Gail got a tetanus shot after the dog bit her.

TUBERCULOSIS

tu ber cu lo sis

A communicable disease affecting the lungs.

Tuberculosis is caused by the presence of bacilli bacteria.

PAGE 1

INFECTION AND IMMUNITY

VOCABULARY:

PATHOGENIC

MICROBES

BACTERIA

INFECTION

LOCAL INFECTION

PUS

GENERAL INFECTION

BLOOD POISONING

****

PAGE 2

VOCABULARY:

SYPHILIS

SCABIES

HEAD LICE

CONTAGIOUS

IMMUNITY

RESISTANCE

NATURAL IMMUNITY

ACQUIRED IMMUNITY

PAGE 3

VOCABULARY:

ARTIFICIAL IMMUNITY

INJECTION

HUMAN DISEASE CARRIER

TYPHOID FEVER

DIPHTHERIA

****

PAGE 4

PATHOGENIC BACTERIA ENTER THE BODY AND CAN PRODUCE DISEASE. AN INFECTION OCCURS IF THE BODY IS NOT ABLE TO COPE WITH THE HARMFUL BACTERIA. THERE ARE TWO KINDS OF INFECTIONS:

1. A LOCAL INFECTION, AND
2. A GENERAL INFECTION.

PAGE 5

A LOCAL INFECTION IS FOUND IN ONE SPECIFIC AREA OF THE BODY. IT CAN BE A BOIL OR PIMPLE THAT CONTAINS PUS.

A GENERAL INFECTION ENTERS THE BLOOD STREAM AND CARRIES HARMFUL POISON THROUGHOUT THE ENTIRE BODY. EXAMPLES OF GENERAL INFECTIONS ARE BLOOD POISONING AND SYPHILIS.

****

PAGE 6

INFECTIOUS DISEASES THAT ARE SPREAD FROM ONE PERSON TO ANOTHER ARE CALLED CONTAGIOUS. CONTAGIOUS DISEASES INCLUDE: THE FLU, A COLD, AND SCABIES.

PAGE 7

CONTAGIOUS DISEASES ARE SPREAD TO PEOPLE BY PATHOGENIC BACTERIA THAT ENTER THE BODY. PATHOGENIC BACTERIA WILL ENTER THE BODY THROUGH A CUT OR SCRATCH IN THE SKIN, BY BREATHING IN OR EATING FOODS CONTAINING MICROBES OR GERMS, OR BY DIRT ENTERING THROUGH THE EYES OR EARS.

****

PAGE 8

IMMUNITY, EITHER NATURAL OR ACQUIRED, IS THE ABILITY OF THE BODY TO RESIST INFECTION AND DESTROY PATHOGENIC BACTERIA.

NATURAL IMMUNITY IS THE NATURAL RESISTANCE THE BODY HAS TO DISEASE. A HEALTHY PERSON WILL HAVE THE ABILITY TO RESIST CERTAIN DISEASES.

PAGE 9

ACQUIRED IMMUNITY IS THE RESULT OF HAVING HAD A DISEASE AND, AS THE NAME IMPLIES, ACQUIRING A RESISTANCE TO THE DISEASE. SINCE THIS IS AN ARTIFICIAL IMMUNITY, IT CAN ALSO BE PROVIDED BY CERTAIN ANIMAL SHOTS OR INJECTIONS.

****

PAGE 10

A HUMAN DISEASE CARRIER IS A PERSON WHO, ALTHOUGH IMMUNE TO THE DISEASE, CAN INFECT OTHER PEOPLE WITH THE DISEASE. TYPHOID FEVER AND DIPHTHERIA ARE DISEASES THAT ARE SPREAD BY HUMAN CARRIERS.

PAGE 11

1. IF PUS EXISTS IN A PIMPLE OR BOIL, IT IS A SIGN OF -----.

A. SCABIES

B. INFECTION

C. HEALING

****

PAGE 12

2. INFECTION IS CAUSED BY -----.

A. NON-PATHOGENIC BACTERIA

B. CONTAGION

C. PATHOGENIC BACTERIA

PAGE 13

3. THE INFECTION THAT TRAVELS THROUGH THE BLOOD TO ALL PARTS OF THE BODY IS A -----.

A. GENERAL INFECTION

B. LOCAL INFECTION

C. CONTAGIOUS INFECTION

****

PAGE 14

4. WHEN A DISEASE IS TRANSMITTED FROM ONE PERSON TO ANOTHER, IT IS CALLED -----.

A. CONTAGIOUS

B. NON-PATHOGENIC

C. POISONING

PAGE 15

5. OF THE FOLLOWING DISEASES,

WHICH IS NOT CONTAGIOUS? ----

A. A COLD

B. THE FLU

C. CANCER

****

PAGE 16

6. NATURAL IMMUNITY IS -----.

A. IMMUNITY AFTER A SHOT

B. IMMUNITY AFTER A DISEASE

C. NATURAL RESISTANCE TO A DISEASE

PAGE 17

7. SOMEONE WHO CANNOT GET A DISEASE, BUT WHO CAN SPREAD THE GERMS TO OTHER PEOPLE IS CALLED A -----.

A. HUMAN DISEASE CARRIER

B. SAPROPHYTE

C. PARASITE

****

PAGE 18

8. THE ABILITY OF THE BODY TO FIGHT AND OVERCOME CERTAIN DISEASES IS CALLED -----.

A. CONTAGION

B. IMMUNITY

C. SANITATION

PAGE 19

	ANSWERS	PAGE REF.
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3	A	5
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5	C	6
6	C	8
7	A	10
8	B	8

****

INFECTION AND IMMUNITY

FOOTNOTES

PAGE 8

REPRINTED FROM THE STANDARD TEXTBOOK OF COSMETOLOGY BY PERMISSION OF MILADY PUBLISHING CORPORATION, P.26.

GLOSSARY

ACQUIRED IMMUNITY

ac quired im mu ni ty

A resistance to disease that is gained by having had the disease or having a shot.

If you have had the mumps, you have an acquired immunity.

ARTIFICIAL IMMUNITY

ar ti fi cial im mu ni ty

Resistance to a disease that is gained by getting a shot.

Artificial immunity is acquired if you get an injection.

BACTERIA

bac te ri a

Single-celled microscopic organisms also called germs or microbes.

There are hundreds of different kinds of bacteria.

BLOOD POISONING

blood poi son ing

A general infection in which bacteria and their toxins are carried to all parts of the body through the blood stream.

Blood poisoning must be treated by a prolonged stay in the hospital.

CONTAGIOUS

con ta gious

Spread by contact.

A cold is a contagious disease.

DIPHTHERIA

diph the ri a

A contagious bacterial disease. It is accompanied by a high fever and trouble in breathing.

Diphtheria is a contagious disease.

GENERAL INFECTION

gen er al in fec tion

A disease which has spread to all parts of the body.

A general infection results when the bloodstream carries bacteria to all parts of the body.

HEAD LICE

head lice

Small, wingless parasitic insects. They are found in the hair or scalp.

The school nurse checked the students to see if anyone had head lice.

HUMAN DISEASE CARRIER

hu man dis ease car ri er

A person who is immune to a disease but who harbors the germs which can infect other people.

Typhoid fever is transmitted by a human disease carrier.

IMMUNITY

im mu ni ty

Having a special capacity
to resist disease.

Immunity is the ability of
the body to resist invasion
and destroy bacteria once
they have gained entrance.

INFECTION

in fec tion

The invasion of the body
tissue by disease germs.

The presence of pus is
a sign of infection.

INJECTION

in jec tion

A shot; serum put into
the body with a needle.

Acquired immunity is
secured after an injection.

LOCAL INFECTION

lo cal in fec tion

An infection that is confined to one particular part of the body.

A local infection is indicated by a boil or a pimple containing pus.

MICROBES

mi crobes

Germs or bacteria.

Microbes are especially numerous in dirt, dust and diseased tissues.

NATURAL IMMUNITY

na tur al im mu ni ty

The natural resistance to disease by the human body.

Natural immunity is partly inherited and partly developed by hygienic practices.

PATHOGENIC

path o gen ic

Disease-producing bacteria.

Pathogenic bacteria are harmful bacteria because they produce disease.

PUS

pus

A thick, yellowish fluid containing germs, blood cells and tissue-waste materials.

Staphylococci are the most common pus-forming bacteria.

RESISTANCE

re sist ance

To fight against; to withstand the force or effect of disease.

Kathy has a natural resistance to infections.

SCABIES

sca bies

A disease caused by an animal parasite, accompanied by intense itching.

Scabies is an infectious disease.

SYPHILIS

syph i lis

An infectious disease caused by spirilla.

Syphilis is a contagious disease.

TYPHOID FEVER

ty phoid fe ver

A communicable bacterial disease. It is accompanied with a high fever, diarrhea and intestinal infection.

Typhoid fever is a communicable disease.

PAGE 1

STERILIZATION

VOCABULARY:

STERILIZATION

DESTROY

NON-PATHOGENIC

PATHOGENIC

INFECT

FAHRENHEIT

CELSIUS

ULTRA-VIOLET RAYS

****

PAGE 2

VOCABULARY: (CONTINUED)

SANITIZE

ANTISEPTIC

DISINFECTANT

PAGE 3

STERILIZATION DESTROYS ALL BACTERIA, PATHOGENIC AND NON-PATHOGENIC. STERILIZATION ENABLES THE COSMETOLOGIST TO DESTROY THE GERMS THAT COULD INFECT PATRONS. SANITIZING MEANS TO CLEAN EQUIPMENT. SANITIZING KILLS SOME, BUT NOT ALL GERMS.

****

PAGE 4

THE COSMETOLOGIST WILL USE THE FOLLOWING METHODS TO STERILIZE OR SANITIZE:

1. BOILING WATER AT 212 DEGREES FAHRENHEIT OR 100 DEGREES CELSIUS FOR MORE THAN 20 MINUTES.
2. STEAMING- PUTTING THE EQUIPMENT IN A STEAM PRESSURE STERILIZER. MANY DOCTORS USE THIS METHOD.
3. DRY HEAT IS USED TO STERILIZE TOWELS.

PAGE 5

4. ULTRA-VIOLET RAYS SANITIZE.

5. CHEMICAL AGENTS, SUCH AS ANTI-SEPTICS AND DISINFECTANTS.

CHEMICAL-TYPE STERILIZERS ARE THE MOST EFFECTIVE AND THE MOST FREQUENTLY USED IN THE BEAUTY SALON. AN ANTISEPTIC IS A CHEMICAL THAT MAY KILL OR SLOW DOWN THE GROWTH OF BACTERIA.

****

PAGE 6

A DISINFECTANT DESTROYS BACTERIA, AND IS MORE POWERFUL THAN AN ANTI-SEPTIC. IT IS USED TO DESTROY BACTERIA ON EQUIPMENT THAT A COSMETOLOGIST MAY USE.

PAGE 7

1. ----- RAYS SANITIZE THE EQUIPMENT USED BY COSMETOLOGISTS.

A. ALPHA

B. BETA

C. GAMMA

D. ULTRA-VIOLET

****

PAGE 8

2. CHEMICAL AGENTS, SUCH AS ANTISEPTICS AND ----- ARE USED IN THE SALON.

A. DISINFECTANTS

B. ULTRA-VIOLET

C. PRESSURE

PAGE 9

3. WHEN BOILING EQUIPMENT, IT SHOULD REACH A TEMPERATURE OF ----- TO DESTROY ALL BACTERIA.

A. 212 DEGREES F

B. 0 DEGREES F

C. 500 DEGREES F

****

PAGE 10

4. TO DESTROY ALL BACTERIA, YOU WOULD USE A(N) -----.

A. ANTISEPTIC

B. DISINFECTANT

C. DEODORANT

BEST COPY AVAILABLE

PAGE 11

	ANSWERS	PAGE REF.
1	D	5
2	A	5
3	A	4
4	B	6

STERILIZATION

GLOSSARY

ANTISEPTIC

an ti sep tic

A chemical agent which may kill or prevent the growth of bacteria.

Antiseptics can, as a general rule, be used with safety on the skin.

CELSIUS

Cel si us (C)

A thermometer scale on which the boiling point of water is 100 degrees C. and the freezing point is 0 degrees C.

The temperature is 22° C.

DESTROY

de stroy

To ruin, kill or put out of existence.

Disinfectants destroy the growth of bacteria.

DISINFECTANTS

dis in fect ants

A chemical that kills harmful microorganisms.

"QUATS" are disinfectants that work quickly and are colorless and odorless.

FAHRENHEIT

Fahr en heit (F)

A thermometer scale on which the boiling point of water is 212 degrees F. And the freezing point is 32 degrees F.

Ice will freeze at 32 degrees Fahrenheit.

INFECT

in fect

To pass on or contaminate with a disease-producing bacteria.

The cut on Aaron's hand became infected.

NON-PATHOGENIC

non - path o gen ic

A type of bacteria
which is harmless
or beneficial.

Non-pathogenic bacteria
perform useful functions,
such as improving the
fertility of the soil.

PATHOGENIC BACTERIA

path o gen ic bac te ri a

Harmful bacteria.

Pathogenic bacteria
produce disease.

SANITIZE

san i tize

To make clean and
destroy most bacteria.

Generally, the cosmetologist
must sanitize all implements
and equipment that are used
in the salon.

STERILIZATION

ster i li za tion

The process of making objects germ-free: the destruction of bacteria.

Sterilization prevents the growth of germs that are responsible for infections and communicable disease.

ULTRA-VIOLET RAYS

ul tra - vi o let rays

An electrical sanitizer used in the beauty salon to keep implements sanitary.

Ultra-violet ray electrical sanitizers are effective for keeping combs, brushes or implements clean until ready to use.

PAGE 1

CHEMICAL SANITIZING AGENTS

VOCABULARY:

DISINFECTANTS

BARBICIDES

NON-TOXIC

DILUTED

FORMALIN

QUATERNARY AMMONIUM COMPOUNDS
(QUATS)

****

PAGE 2

'QUATS' IS THE NAME FOR QUATERNARY AMMONIUM COMPOUNDS. THESE CHEMICALS, ALSO KNOWN AS BARBICIDES, ARE DISINFECTANTS. THEY KILL GERMS AND BACTERIA.

PAGE 3

QUATS HAVE A NUMBER OF ADVANTAGES:

1. TO DISINFECT QUICKLY, OBJECTS MAY BE PLACED IN THIS CHEMICAL FOR 1 TO 5 MINUTES.

2. THEY ARE ODORLESS AND COLORLESS.

3. THEY ARE NON-TOXIC (NON-POISONOUS).

****

PAGE 4

A SOLUTION OF 1/1000 IS USUALLY USED. THIS MEANS THAT THE 1 IS ONE PART OF THE QUAT SOLUTION WHICH IS DILUTED WITH 1000 PARTS WATER. (EXAMPLE: ONE OUNCE OF QUAT SOLUTION IS MIXED WITH 1000 OUNCES OF WATER.)

BE SURE TO READ AND FOLLOW THE MANUFACTURER'S DIRECTIONS ON THE LABEL BEFORE YOU MIX!

AGE 5

FORMALIN IS ANOTHER SANITIZING AGENT. IT CAN BE AN ANTISEPTIC OR DISINFECTANT. (A STRONG SOLUTION, WITH MORE FORMALIN IN THE WATER, WOULD BE A DISINFECTANT. A WEAKER SOLUTION, WITH LESS FORMALIN, WOULD BE AN ANTISEPTIC.)

****

PAGE 6

1.'QUATS' IS A QUATERNARY AMMONIUM COMPOUND USED AS A(N) -----.

A. ANTISEPTIC

B. DISINFECTANT

C. DEODORANT

PAGE 7

2. A ----- SOLUTION OF QUATS IS COMMONLY USED TO SANITIZE EQUIPMENT.

   A. 2:1

   B. 1:1000

   C. 1000:3

****

PAGE 8

3. BEFORE MIXING ANY QUAT SOLUTION YOU SHOULD -----.

   A. READ THE INSTRUCTIONS ON THE MANUFACTURER'S LABEL

   B. BOIL THE QUATS

   C. PUT PERFUME IN THE QUATS

PAGE 9

4. EQUIPMENT SHOULD BE KEPT IN A

QUAT SOLUTION -----.

A. TEN TO TWENTY MINUTES

B. ONE TO TWO HOURS

C. ONE TO FIVE MINUTES

****

PAGE 10

	ANSWERS	PAGE REF.
1	B	2
2	B	4
3	A	4
4	C	3

CHEMICAL SANITIZING AGENTS

GLOSSARY

BARBICIDES

bar bi cides

A chemical used in the beauty salon to kill bacteria.

Combs should be placed in barbicides after each use.

DILUTED

di lut ed

Weakened.

When diluted with water, a disinfectant can become an antiseptic.

DISINFECTANTS

dis in fect ants

A chemical used to kill bacteria.

Quaternary ammonium compounds (QUATS) are effective disinfectants.

FORMALIN

for ma lin

A chemical sanitizing agent which can be used either as an antiseptic or disinfectant.

Formalin is approximately 40% of formaldehyde gas in water.

NON-TOXIC

non - tox ic

Not poisonous.

The paint for toys used by children, under a federal law, must be non-toxic.

QUATERNARY AMMONIUM COMPOUNDS (QUATS)

qua ter nar y am mo ni um com pounds

Chemical compounds used as disinfectants.

Before using any "QUATS," read and follow manufacturer's directions on the label and accompanying literature.

2

Chemical Waving

PAGE 1

HAIR AND SCALP ANALYSIS

VOCABULARY:

SCALP ANALYSIS

POROSITY

ABSORB

ELASTICITY

TENSILE STRENGTH

DENSITY

TEXTURE

CONTRACT

****

PAGE 2

VOCABULARY: (CONTINUED)

ABRASION

TECHNIQUE

PAGE 3

CHEMICAL WAVING REQUIRES A THOROUGH HAIR AND SCALP ANALYSIS. THREE IMPORTANT FACTORS THAT INFLUENCE THE RESULTS OF A CHEMICAL WAVE ARE:

1. POROSITY,
2. ELASTICITY, AND
3. DENSITY.

****

PAGE 4

POROSITY IS THE HAIR'S ABILITY TO ABSORB LIQUIDS.

ELASTICITY IS THE HAIR'S TENSILE STRENGTH OR THE ABILITY OF THE HAIR TO STRETCH AND RETURN TO ITS NORMAL LENGTH.

PAGE 5

DENSITY OF THE HAIR REFERS TO ITS

TEXTURE OR THE AMOUNT OF HAIR PER SQUARE INCH. ALSO, LENGTH OF HAIR WOULD BE CONSIDERED (ALONG WITH DENSITY) AND MAY NEED SPECIAL ATTENTION DUE TO THE AMOUNT OF HAIR AROUND THE ROD.

****

PAGE 6

1. CHEMICAL WAVING REQUIRES ANALYSIS AND A THOROUGH KNOWLEDGE OF ----.

   A. THE HAIR AND SCALP

   B. MASSAGES

   C. FROSTING

   D. MACHINES

PAGE 7

2. THREE FACTORS TO CONSIDER WHEN CHEMICAL WAVING ARE -----.

A. HEAT, PATRON, NAILS

B. POROSITY, ELASTICITY, DENSITY

C. LIMPNESS, CONTACT, RUFFLES

D. PROCESSING, CUTTING, ABRASIONS

****

PAGE 8

3. POROSITY REFERS TO -----.

A. SHAPING THE HAIR

B. ABRASIONS

C. ABILITY OF THE HAIR TO ABSORB LIQUIDS

D. NEUTRALIZATION

PAGE 9

4. ELASTICITY REFERS TO -----.

A. SHAMPOO

B. NAILS

C. CREME RINSE

D. ABILITY OF THE HAIR TO STRETCH AND CONTRACT

****

PAGE 10

5. DENSITY REFERS TO -----.

A. SHAPING

B. THIN HAIR

C. AMOUNT OF HAIR PER SQUARE INCH

D. ABRASIONS

PAGE 11

6. LENGTH OF HAIR MAY INFLUENCE THE TECHNIQUE USED IN WRAPPING A CHEMICAL WAVE BECAUSE OF ---.

A. THICKNESS OF HAIR AROUND THE PERM ROD

B. RESISTANCE TO WRAPPING

C. POROSITY

D. ELASTICITY

****

PAGE 12

	ANSWERS	PAGE REF.
1	A	3
2	B	3
3	C	4
4	D	4
5	C	5
6	A	5

HAIR AND SCALP ANALYSIS

GLOSSARY

ABRASION

a bra sion

Scraping of the skin,
a break in the skin,
a sore.

The cosmetologist
should check a patron's
scalp for abrasions
before proceeding with
a chemical permanent.

ABSORB

ab sorb

To suck up or drink
in a liquid.

Porosity is the
hair's ability
to absorb liquids.

CONTRACT

con tract

To pull in, to shrink.

Elasticity refers to
the hair's ability
to stretch and contract.

DENSITY

den si ty

The amount of something per square inch. The compactness, how closely set or crowded together something is.

Density of the hair refers to its texture or the amount of hair per square inch.

ELASTICITY

e las tic i ty

The quality that lets something be stretched and return to its former shape.

Elasticity is the ability of the hair to stretch and contract.

POROSITY

po ros i ty

The ability of the hair to absorb or soak up moisture.

Hair with good porosity will absorb chemical waving solutions easily.

SCALP ANALYSIS

scalp a nal y sis

The examination of the scalp to check for cuts, scrapes or abrasions.

Chemical waving requires a thorough hair and scalp analysis.

TECHNIQUE

tech nique

The manner or way in which something is done. The ability with which a cosmetologist, writer, dancer, etc., uses the technical skill of his/her particular art.

Length of hair may influence the technique in wrapping a chemical wave.

TENSILE STRENGTH

ten sile strength

The resistance of a material to tear apart or rip when stress is applied.

Elasticity is the hair's tensile strength or the ability of the hair to stretch and return to its normal length.

TEXTURE

tex ture

The feel of the individual hair strand and the size of the strand classified as course, medium or fine.

The texture of the client's hair should be considered when choosing a hairstyle.

PAGE 1

CHEMICAL WAVING-INGREDIENTS

VOCABULARY:

COLD WAVE

CHEMICAL WAVE

COLD WAVE LOTION

CHEMICAL WAVE LOTION

PERMANENT WAVE

INGREDIENTS

AMMONIUM THIOGLYCOLATE

ALKALI

****

PAGE 2

VOCABULARY:(CONTINUED)

BASE

DETERGENTS

NEUTRALIZERS

ACID

FIXES

REHARDENS

PAGE 3

CHEMICAL WAVING REQUIRES A BASIC KNOWLEDGE OF THE INGREDIENTS USED IN A COLD WAVE LOTION. SOME INGREDIENTS USED IN A CHEMICAL WAVE ARE:

A. AMMONIUM THIOGLYCOLATE,
B. DETERGENTS, AND
C. NEUTRALIZERS.

****

PAGE 4

AMMONIUM THIOGLYCOLATE, "THIO," IS THE CHEMICAL USED IN PERMANENT WAVING TO SOFTEN THE HAIR SO IT CAN BE REARRANGED INTO A CURL PATTERN. DETERGENTS ARE USED FOR THICKENING THE SOLUTION. "THIO," AS IT IS COMMONLY CALLED, IS AN ALKALI OR A BASE, AND THE NEUTRALIZER IS AN ACID. THE NEUTRALIZER "FIXES," OR REHARDENS, THE HAIR.

PAGE 5

1. THE ACTIVE INGREDIENT IN A PERM WAVING SOLUTION IS -----.

A. AMMONIUM THIOGLYCOLATE

B. NEUTRALIZER

C. HYDROXIDE

****

PAGE 6

2. ----- IS USED TO REHARDEN THE HAIR INTO ITS NEW SHAPE.

A. WATER

B. A NEUTRALIZER

C. SOAP

PAGE 7

3. AMMONIUM THIOGLYCOLATE IS COMMONLY CALLED -----.

A. P.W. SOLUTION

B. HYDROXIDE

C. THIO

****

PAGE 8

	ANSWERS	PAGE REF.
1	A	4
2	B	4
3	C	4

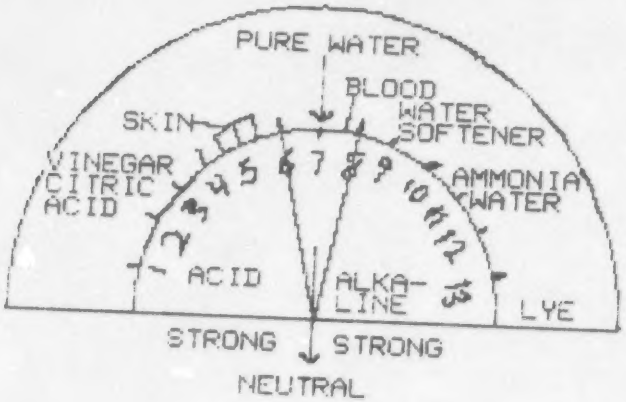
CHEMICAL WAVING - INGREDIENTS

GLOSSARY

ACID

ac id

A substance that has a pH of below 7 on the pH scale. Acids are chemical compounds made up of hydrogen atoms and a non-metallic element. Some acids are poisonous and very dangerous (sulphuric acid); others, like citric acid, are eaten in oranges and lemons.

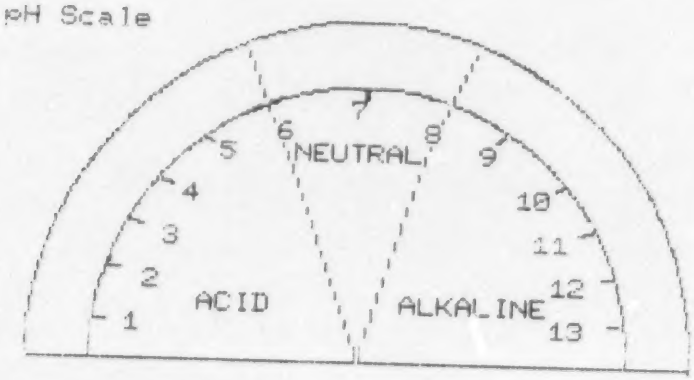


A neutralizer is an <u>acid</u>.

ALKALI

al ka li

A substance that has a pH of above 7 to 14 on the pH scale. An alkali, or base, is a chemical compound that contains hydrogen, oxygen and a metal.



<u>Alkali</u> compounds can be found in some soaps and shampoos.

AMMONIUM THIOGLYCOLATE

am mo ni um thi o gly co late

Sometimes called "thio,"
It is a chemical solution
used in chemical cold
waving and chemical
hair relaxing.

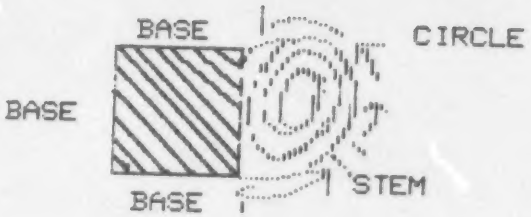
Ammonium thioglycolate
is the chemical used in
permanent waving to
soften the hair so
it can be rearranged
into a curl pattern.

BASE

base

See "alkali." Another
name for alkali.

Thio is an alkali or a
base.



CHEMICAL WAVE

chem i cal wave

One method of permanent
waving. It involves the
use of chemical solutions
to change the hair curl
pattern of the hair.
Also known as cold wave.

A chemical wave can be
successfully used on most
types of hair.

CHEMICAL WAVING LOTION

chem i cal wav ing lo tion

Used to soften the hair so it can be rearranged into a curl pattern. It is a solution applied to the hair that breaks down the bonds within the shaft. Once the bonds have been broken down, they are rearranged into a desired curl pattern.

The strength of a chemical waving lotion can be adjusted by changing the amount of the active ingredient, ammonium thioglycolate.

COLD WAVE

cold wave

See "chemical wave," another name for chemical wave.

Ammonium thioglycolate is one chemical solution used in giving a cold wave.

COLD WAVE LOTION

cold wave lo tion

See "chemical waving lotion." Another name for chemical waving lotion.

Most cold wave lotions contain the active ingredient, ammonium thioglycolate, that permanently changes the hair structure.

DETERGENT

de ter gent

Similar to soap, it is used as a cleaning agent.

Shampoo is a detergent.

FIXES

fix es

A term used in chemical waving. A neutralizer or stabilizer "fixes" or stops the action of the waving lotion and sets the curl in its new form.

The neutralizer "fixes" or rehardens the hair.

INGREDIENT

in gre di ent

One of the things or substances that make up a mixture.

Some ingredients used in a chemical wave are ammonium thioglycolate, a detergent and a neutralizer.

NEUTRALIZER

neu tral iz er

A chemical that stops the action of the cold wave lotion. It "sets" the curls into the desired new curl pattern.

The neutralizer "fixes" or rehardens the hair.

PERMANENT WAVE

per ma nent wave

The process of changing the curl pattern on a patron's hair. The permanent wave may be a cold wave which uses chemicals to produce the new curl, or the permanent wave may be heat activated. Heat is used to make the new curl change.

Kathy wanted curly hair, so she had a permanent wave.

REHARDENS

re hard ens

A term used in chemical waving. A neutralizer or stabilizer "rehardens" or stops the action of the waving lotion and sets the curl in its new form.

The neutralizer fixes or rehardens the hair.

PAGE 1

CHEMICAL WAVING-SECTIONING

CHEMICAL WAVING

SECTIONING PATTERN

CLIENT

CONTOUR

GROWTH PATTERN

SINGLE HALO

DOUBLE HALO

STRAIGHT BACK

DROPPED CROWN

****

PAGE 2

CHEMICAL WAVING REQUIRES THE HAIR TO BE DIVIDED INTO SECTIONING PATTERNS BEFORE WINDING ON PERM RODS. THE SECTIONING PATTERN USED DEPENDS ON THE GROWTH PATTERN, THE SIZE AND THE CONTOUR OF THE HEAD.

PAGE 3

FOUR BASIC SECTIONING PATTERNS ARE:

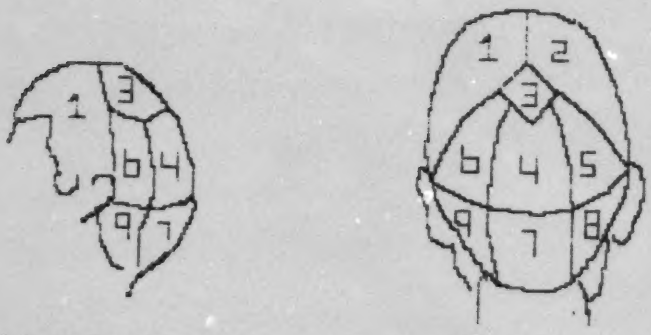
1. SINGLE HALO
2. DOUBLE HALO
3. STRAIGHT BACK
4. DROPPED CROWN

THE HAIRSTYLE DESIRED BY THE CLIENT WOULD BE CONSIDERED BEFORE CHOOSING ONE OF THESE BASIC SECTIONING PATTERNS.

****

PAGE 4
FIGURE 1

SECTIONING

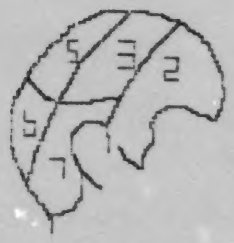


side view back view

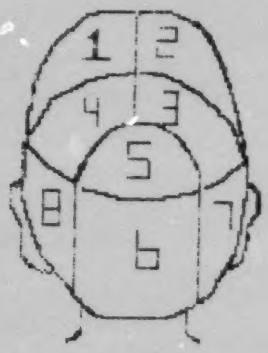
SINGLE HALO

PAGE 5
FIGURE 2

DOUBLE HALO

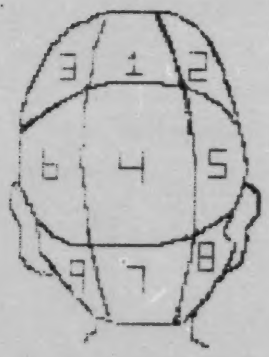


SIDE VIEW



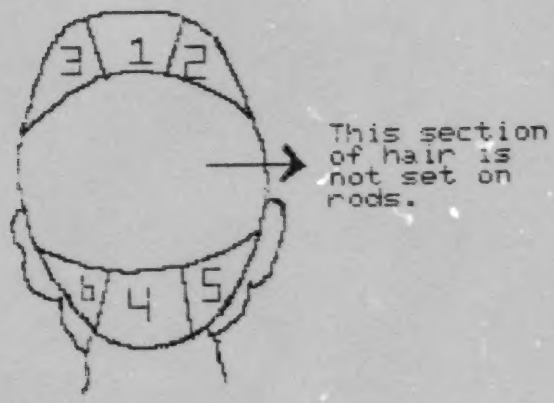
BACK VIEW

PAGE 6
FIGURE 3



STRAIGHT BACK
(back view)

PAGE 7
FIGURE 4



DROPPED CROWN
(back view)

****

PAGE 8

1. CHEMICAL WAVING REQUIRES THE HAIR TO BE DIVIDED INTO A PATTERN ON THE HEAD. THIS PATTERN IS CALLED -----.

   A. PARTING

   B. SECTIONING

   C. WRAPPING

   D. PERM WAVING

PAGE 9

2. THERE ARE ----- BASIC SECTIONING PATTERNS.

A. SIX

B. EIGHT

C. FOUR

D. TWO

****

PAGE 10

3. WHEN SELECTING A SECTIONING PATTERN, THE COSMETOLOGIST MUST CONSIDER -----.

A. SHAPING

B. GROWTH PATTERN AND CONTOUR OF THE CLIENT'S HEAD

C. SIZE OF COMB

D. PERM WAVE

PAGE 11

	ANSWERS	PAGE REF.
1	B	2
2	C	3
3	B	2

CHEMICAL WAVING - SECTIONING

FOOTNOTES

PAGE 4

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PAGE 5

IBID.

PAGE 6

IBID., P.160.

PAGE 7

IBID.

GLOSSARY

CHEMICAL WAVE

chem i cal wave

One method of permanent waving. It involves the use of chemical solutions to change the curl pattern of the hair.

A chemical wave can be successfully used on all types of hair.

CLIENT

cli ent

A customer or patron.

The client had selected a hairstyle.

CONTOUR

con tour

The curving shape or outline of an object.

The choice of a sectioning pattern depends on the contour of the client's head.

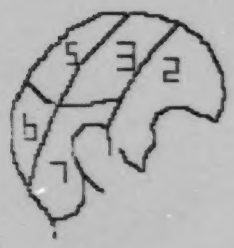
DOUBLE HALO

dou ble ha lo

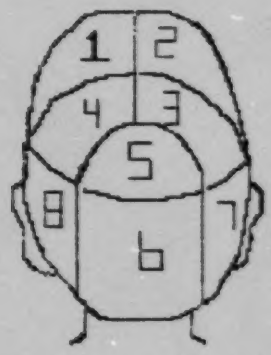
A sectioning pattern that divides the hair into eight sections for chemical wave hair wrapping.

DOUBLE HALO is one of the four basic sectioning patterns.

DOUBLE HALO



SIDE VIEW



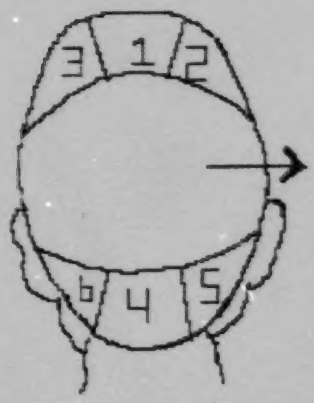
BACK VIEW

DROPPED CROWN

dropped crown

A sectioning pattern that divides the hair into six sections for chemical wave hair wrapping. This is used on medium to long hair lengths where a smooth back is desired.

Gail had long hair and wanted curl only on the ends. The cosmetologist chose a dropped crown sectioning pattern when she gave Gail a chemical wave.



This section of hair is not set on rods.

DROPPED CROWN
(back view)

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GROWTH PATTERN

growth pat tern

The way a person's hair grows.

The growth pattern of Raymond's hair included a cowlick and a widow's peak.

SECTIONING PATTERN

sec tion ing pat tern

The way the hair is divided before winding on perm rods. There are four basic sectioning patterns:

1. single halo
2. double halo
3. straight back
4. dropped crown

The sectioning pattern used depends on several factors.

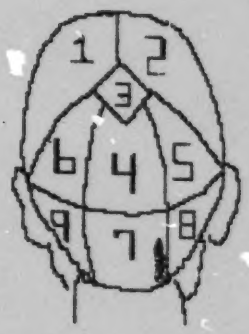
SINGLE HALO

sin gle ha lo

A sectioning pattern that divides the hair into nine sections for chemical wave hair wrapping.

The <u>single halo</u> sectioning pattern may be used on medium-length hair.

side view



back view

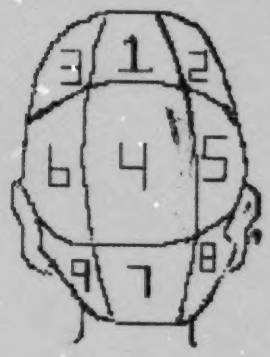
SINGLE HALO

STRAIGHT BACK

straight back

A sectioning pattern that divides the hair into nine sections for chemical wave hair wrapping.

The <u>straight back</u> sectioning pattern may be used on short-length hair.



STRAIGHT BACK
(back view)

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PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

ROD SELECTION

VOCABULARY:

CHEMICAL WAVING

CONSULTATION

ELASTICITY

POROSITY

TEXTURE

PAGE 3

CHEMICAL WAVING REQUIRES THE SE-
LECTION OF PERM WAVE RODS. THIS
PROCEDURE REQUIRES A CONSULTATION
WITH THE CLIENT TO DETERMINE THE
TYPE OF CURL HE OR SHE DESIRES. A
POINT TO REMEMBER WHEN SELECTING
THE STYLE WITH YOUR CLIENT IS THE
ROD. ROD SIZE DETERMINES THE SIZE
OF THE CURL PATTERN.

****

PAGE 4

AFTER A CAREFUL HAIR ANALYSIS TO
DETERMINE ELASTICITY, POROSITY AND
TEXTURE OF HAIR, THE COSMETOLOGIST
WILL DECIDE ON ONE OF THE THREE
ROD SIZES.

PAGE 5

FOR COARSE HAIR WITH GOOD ELASTIC-

ITY, SELECT LARGE RODS.

MEDIUM-TEXTURE HAIR WITH AVERAGE

ELASTICITY, SELECT LARGE TO ME-

DIUM RODS.

FINE HAIR WITH LITTLE ELASTICITY,

SELECT MEDIUM TO SMALL RODS.

FOR BLEACHED OR TINTED HAIR, USE

LARGE RODS.

****

PAGE 6

1. HAIR THAT IS COARSE AND HAS

   GOOD ELASTICITY WOULD REQUIRE

   ----- RODS.

   A. EXTRA LARGE

   B. SMALL

   C. MEDIUM

   D. LARGE

PAGE 7

2. HAIR THAT IS MEDIUM IN TEXTURE WITH AVERAGE ELASTICITY WOULD REQUIRE ----- RODS.

A. EXTRA LARGE

B. SMALL TO MEDIUM

C. MEDIUM

D. LARGE TO MEDIUM

****

PAGE 8

3. HAIR THAT IS FINE WITH VERY LITTLE ELASTICITY WOULD REQUIRE ----- RODS.

A. LARGE TO MEDIUM

B. SMALL

C. MEDIUM TO SMALL

D. LARGE

PAGE 9

4. FOR BLEACHED AND TINTED HAIR,

ONE WOULD SELECT ----- RODS.

A. EXTRA LARGE

B. LARGE

C. SMALL

D. MEDIUM

****

PAGE 10

	ANSWERS	PAGE REF.
1	D	5
2	D	5
3	C	5
4	B	5

ROD SELECTION

GLOSSARY

CHEMICAL WAVING

chem i cal wav ing

A process of hair curling using curler rods, end papers and chemical solutions.

Chemical waving requires the selection of perm wave rods.

CONSULTATION

con sul ta tion

A meeting to ask advice or information.

Chemical waving requires a consultation with the client to determine the type of curl he or she desires.

ELASTICITY

e las tic i ty

The quality that lets something be stretched and return to its former shape.

Elasticity is the ability of the hair to stretch and contract.

POROSITY

po ros i ty

The ability of the hair to absorb or soak up moisture.

Hair with good porosity will absorb chemical waving solutions easily.

TEXTURE

tex ture

The feel of the individual hair strand and the size of the strand classified as coarse, medium or fine.

The texture of the client's hair should be considered when choosing a hairstyle.

PAGE 1

OCCUPATIONAL READING MODULES

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****

PAGE 2

PERM RODS

VOCABULARY:

FORMATION

CONCAVE ROD

STRAIGHT ROD

CIRCUMFERENCE

BOUNDARY

CONVEX

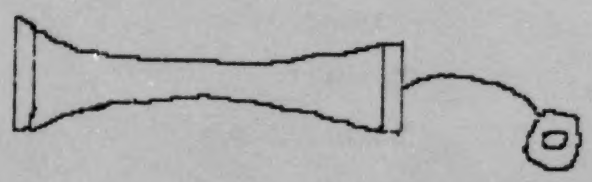
PAGE 3

CHEMICAL WAVING REQUIRES THE SELECTION OF APPROPRIATE CURLING RODS FOR THE FORMATION OF A GOOD CHEMICAL WAVE. TWO BASIC TYPES OF RODS ARE USED:

1. THE CONCAVE ROD; AND
2. THE STRAIGHT ROD.

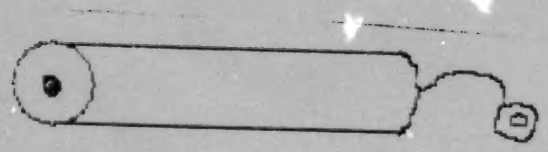
****

PAGE 4
FIGURE 1



The concave rod is narrow in the center with both ends larger.

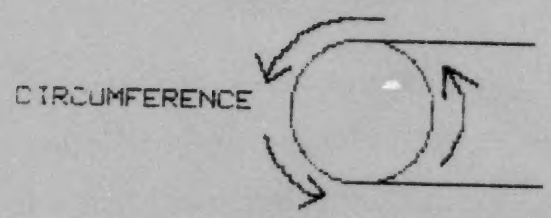
PAGE 5
FIGURE 2



The straight rod is the same size from the center to both ends.

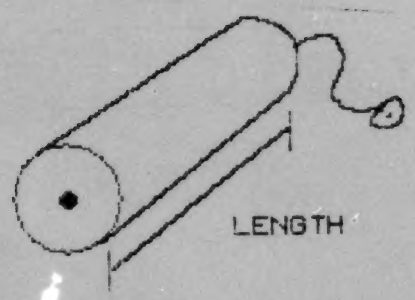
****

PAGE 6
FIGURE 3



These basic rods also vary in their circumference and length. Circumference is the outer boundary or distance around a rod.

PAGE 7
FIGURE 4



Length means how long the waving rod is from one end to the other.

****

PAGE 8

1. THE CIRCUMFERENCE OF A ROD REFERS TO -----.

   A. LENGTH OF THE ROD

   B. OUTER BOUNDARY OF A CIRCLE

   C. DISTANCE THROUGH CENTER OF A CIRCLE

   D. WIDTH OF THE ROD

PAGE 9

2. TWO TYPES OF RODS FOUND IN CHEMICAL WAVING ARE -----.

A. CONCAVE AND STRAIGHT

B. LONG AND NARROW

C. SHORT AND NARROW

D. CONVEX AND CONCAVE

****

PAGE 10

3. A ROD THAT IS THE SAME SIZE FROM THE CENTER TO BOTH ENDS IS CALLED A ----- ROD.

A. CONCAVE

B. CONVEX

C. STRAIGHT

PAGE 11

4. A ROD THAT IS NARROW IN THE CENTER WITH BOTH ENDS LARGER IS CALLED A ----- ROD.

A. CONCAVE

B. CONVEX

C. STRAIGHT

****

PAGE 12

PAGE 13

	ANSWERS	PAGE REF.
1	B	6
2	A	3
3	C	5
4	A	4

PERM RODS

FOOTNOTES

PAGE 4
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GLOSSARY

BOUNDARY

bound a ry

The distance around the outside of something.

The distance around a perm rod is its boundary.

CIRCUMFERENCE

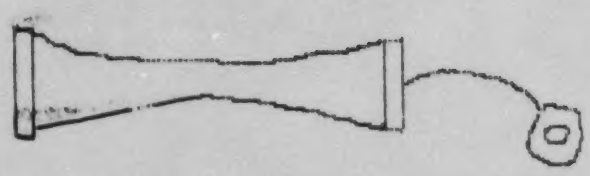
cir cum fer ence

The distance around the outside of a circle, perimeter.

Perm rods vary in their circumference and length.

CONCAVE ROD

con cave rod



A perm curler that is narrower in the center than on the ends.

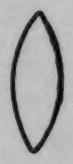
The surface is curved inward on both sides.

Concave rods come in different lengths.

CONVEX

con vex

A surface that is curved or rounded outward. It is the opposite of concave.



The glassmaker made a convex lens for the scientist.

FORMATION

for ma tion

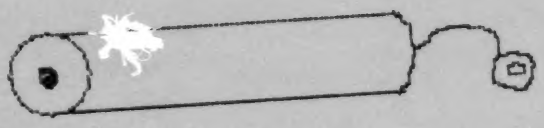
The act or process of giving a shape to something.

Chemical waving requires the selection of curling rods for the formation of a good chemical wave.

STRAIGHT ROD

straight rod

A perm curler that is the same size from the center to both ends.



Susan chose to use a straight rod when giving Dorothy a permanent.

WINDING

VOCABULARY

WRAPPING PROCEDURE

END PAPERS

POROUS

PENETRATE

SINGLE FLAT WRAP

DOUBLE FLAT WRAP

BOOK WRAP

****

PAGE 2

CHEMICAL WAVING REQUIRES THE WINDING OF THE HAIR AROUND THE PERM WAVE ROD TOWARD THE SCALP. THIS PROCEDURE IS CALLED WRAPPING. END PAPERS ARE USED FOR EASE IN HANDLING THE HAIR AND AS PROTECTION FOR DAMAGED HAIR ENDS. THESE END PAPERS ARE POROUS, ALLOWING THE CHEMICAL WAVING SOLUTION TO PENETRATE THE HAIR.

PAGE 3

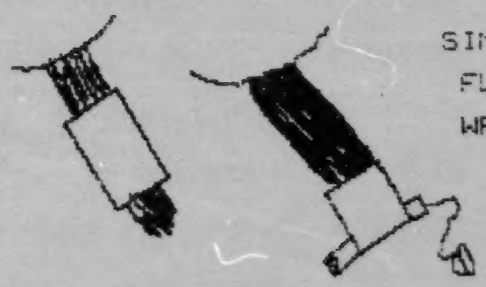
THREE TYPES OF WRAPS USED IN WINDING THE HAIR ARE:

1. SINGLE FLAT WRAP,
2. DOUBLE FLAT WRAP, AND
3. BOOK WRAP.

****

PAGE 4
FIGURE 1

WRAPPING



SINGLE
FLAT
WRAP

The single flat wrap method uses one end paper.

PAGE 5
FIGURE 2

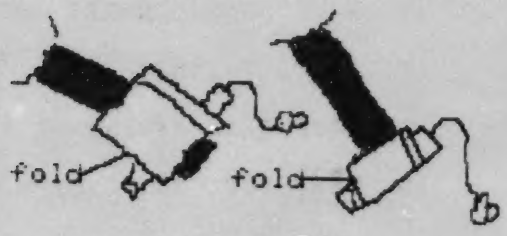
DOUBLE FLAT WRAP

The double flat wrap uses two end papers.

****

PAGE 6
FIGURE 3

BOOK WRAP



The book wrap uses one end paper folded around the hair.

PAGE 7

1. THE PROCEDURE FOR WINDING THE HAIR AROUND A ROD USING END PAPERS IS CALLED -----.

   A. PERM WAVE

   B. WRAPPING

   C. PATTERN

   D. SECURING

****

PAGE 8

2. END PAPERS ARE USED ON DAMAGED HAIR ENDS TO -----.

   A. MAKE RODS TIGHTER

   B. PROTECT ENDS

   C. MAKE PERM WAVE MORE POROUS

   D. KEEP RODS IN PLACE

PAGE 9

3. THREE TYPES OF WRAPS USED IN CHEMICAL WAVING ARE -----.

A. DOUBLE, SINGLE, STRAIGHT

B. COARSE, MEDIUM, FINE

C. SHORT, MEDIUM, LONG

D. SINGLE, DOUBLE, BOOK

****

PAGE 10

4. END PAPERS ARE POROUS, ALLOWING -----.

A. THE SOLUTION TO PENETRATE THE HAIR EASIER

B. THE COSMETOLOGIST TO USE FEWER RODS

C. EASIER WINDING

D. BOTH A AND C

PAGE 11

13. PIN CURLS ARE ALSO KNOWN AS

-----.

A. ROLLER CURLS

B. FINGER CURLS

C. SPIRAL CURLS

D. SCULPTURE CURLS

****

PAGE 12

PAGE 13

	ANSWERS	PAGE REF.
1	A	0
2	C	0
3	B	0
4	B	0
5	B	0
6	D	0
7	A	0
8	E	0
9	C	0
10	B	0
11	E	0
12	A	0
13	D	0

WINDING

GLOSSARY

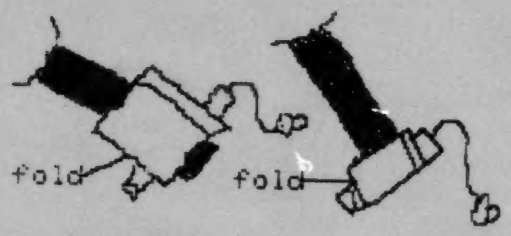
BOOK WRAP

book wrap

One way to wind the hair around a perm wave rod. The book wrap uses one end paper folded around the hair.

A book wrap helps to protect fragile damaged hair.

BOOK WRAP



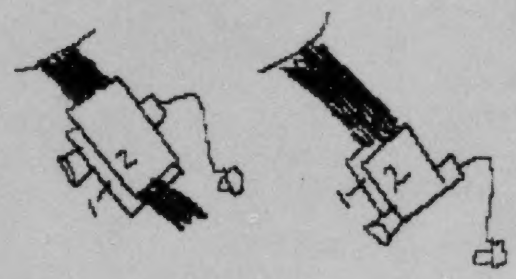
DOUBLE FLAT WRAP

dou ble flat wrap

A way to wind the hair around a perm wave rod. Two end papers are used. One is placed on the top side of the hair strands, the other end paper is placed on the underside of the hair strands.

The double flat wrap uses two end wraps.

DOUBLE FLAT WRAP



END PAPERS

end pa pers

A special paper, similar to tissue paper in feel, used to wrap the hair during a chemical waving treatment.

End papers are used for ease in handling the hair and as protection for damaged hair ends.

PENETRATE

pen e trate

To enter into, to pass into or be absorbed.

End papers are tissue-thin to allow the chemical waving solution to penetrate the hair.

POROUS

po rous

It describes something that can easily absorb liquid through tiny openings called pores.

End papers are porous, which allows the chemical waving solution to penetrate the hair strands.

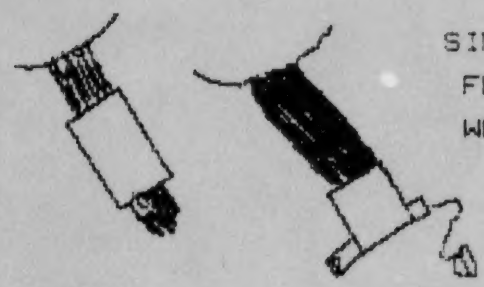
SINGLE FLAT WRAP

sin gle flat wrap

One way to wind the hair around a perm wave rod. A single end paper is placed on the hair strands and the hair is then wrapped around a perm rod.

The single flat wrap method uses one end paper on the hair ends.

WRAPPING



SINGLE FLAT WRAP

WRAPPING PROCEDURE

wrap ping pro ce dure

A particular way of winding the hair around a perm wave rod, toward the scalp, in chemical waving.

The wrapping procedure involves winding the hair using an end paper.

3

Scalp and Hair Massage

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

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PAGE 2

SCALP AND HAIR TREATMENTS

VOCABULARY:

MASSAGE

CIRCULATION

STROKING

PETRISSAGE

KNEADING

EFFLEURAGE

TAPOTEMENT

CONTRACTION

PAGE 3

VOCABULARY (CONTINUED)

FRICTION

VIBRATION

ELECTRIC VIBRATOR

****

PAGE 4

THE WORD "MASSAGE" IS DERIVED FROM THE ARABIC WORD "MASSA," MEANING "TO TOUCH" OR "TO STROKE". AMONG THE BENEFITS OF MASSAGE ARE THE FOLLOWING: SOOTHES, RELIEVES BODY TENSION, INCREASES CIRCULATION, HELPS RELIEVE PAIN IN MUSCLES, SOFTENS THE SKIN WHEN CREAMS ARE USED, CALMS AND RELIEVES EMOTIONAL TENSIONS.

PAGE 5

SEVERAL METHODS ARE USED IN MASSAGING:

1. PETRISSAGE,
2. EFFLEURAGE,
3. TAPOTEMENT,
4. FRICTION, AND
5. VIBRATION.

****

PAGE 6

PETRISSAGE IS KNEADING, ROLLING AND SQUEEZING THE MUSCLES, SIMILAR TO PIE MAKING PROCEDURES; SOME MOVEMENTS ARE LIGHT, WHILE OTHERS ARE HEAVY.

PAGE 7

EFFLEURAGE IS A RELAXING, EASY,

GENTLE STROKING METHOD USED ON THE FACE AND NECK. A FACIAL MASSAGE USUALLY BEGINS AND ENDS WITH THIS TYPE OF MASSAGE STROKE.

****

PAGE 8

TAPOTEMENT IS A STRONGER, STRIKING

MOTION, WHICH INCREASES AND STIMULATES NERVES AND PROMOTES MUSCLE CONTRACTION.

PAGE 9

FRICTION IS A CIRCULAR MOVEMENT, PERFORMED WITH THE FINGERTIPS OR PALMS OF HANDS. FRICTION INCREASES LOCAL CIRCULATION AND IS USED TO LOOSEN STIFF JOINTS.

****

PAGE 10

VIBRATION REFERS TO A RAPID SHAKING OF THE COSMETOLOGIST'S ARMS WHILE FINGERTIPS OR PALMS ARE TOUCHING PATRON. AN ELECTRIC VIBRATOR MAY ALSO BE USED FOR THIS TYPE OF MASSAGE. THIS TECHNIQUE IS EXTREMELY STIMULATING.

PAGE 11

1. MASSAGE TECHNIQUES VARY, BUT ONE EXAMPLE OF AN EASY AND GENTLE STROKING TECHNIQUE IS CALLED -----.

A. PERCUSSION

B. HACKING

C. EFFLEURAGE

D. PETRISSAGE

****

PAGE 12

2. A MASSAGE TECHNIQUE THAT USES A STRIKING MOTION IS CALLED ----.

A. VIBRATION

B. TAPOTEMENT

C. INSERTION

D. FRICTION

PAGE 13

3. A MASSAGE TECHNIQUE USED MOSTLY ON STIFF JOINTS IS -----.

A. FRICTION

B. VIBRATION

C. TAPOTEMENT

D. EFFLEURAGE

****

PAGE 14

4. A MASSAGE TECHNIQUE THAT IS EXTREMELY STIMULATING, PERFORMED BY RAPID SHAKING OF ARMS WHILE FINGERTIPS OR PALMS ARE TOUCHING THE PATRON, IS -----.

A. TAPOTEMENT

B. HACKING

C. TENSION

D. VIBRATION

PAGE 15

	ANSWERS	PAGE REF.
1	C	7
2	B	8
3	A	9
4	D	10

GLOSSARY

CIRCULATION

cir cu la tion

The movement of blood throughout the body. The act of moving in a circle or flowing.

Among the benefits of a massage is the increased blood circulation.

CONTRACTION

con trac tion

The action of a muscle to shrink or flex. The shortening and thickening of a muscle.

Tapotement is a strong, striking motion that promotes muscle contraction.

EFFLEURAGE

ef fleu rage

A very light, stroking motion used in a massage. A light stroking of the skin.

Effleurage is a relaxing, easy, gentle stroking method used on the face and neck.

ELECTRIC VIBRATOR

e lec tric vi bra tor

A vibrating (a fast back and forth motion) machine used in massages to stimulate muscles and relieve tension.

The electric vibrator is an extremely stimulating form of massage.

FRICTION

fric tion

The rubbing of one thing against another. The friction massage stroke is a circular movement, performed with the fingertips or palms of hands.

Friction increases local circulation and is used to loosen stiff joints.

KNEADING

knead ing

To work, roll and press using the hands. Skin can be kneaded during a massage. Dough can also be kneaded when making bread.

Petrissage is the kneading , rolling and squeezing of the skin and muscles during a massage.

MASSAGE

mas sage

The rubbing, stroking, kneading and light hitting of the skin with the hand or an electric vibrator.

A facial massage usually begins and ends with a light and gentle effleurage stroke.

PETRISSAGE

pet ris sage

A massage stroke in which the skin and muscles are kneaded, rolled and squeezed.

Petrissage is used to relax muscles and reduce tension.

STROKING

strok ing

To rub gently; a gentle movement of the hand in a caressing manner.

Effleurage is a relaxing, easy, gentle stroking motion used on the face and neck.

TAPOTEMENT

ta pote ment

A massage movement that uses a quick slapping stroke, a firm striking motion.

Tapotement is a massage stroke that increases and stimulates muscle contractions.

VIBRATION

vi bra tion

A motion back and forth, quiver. A stroking method in massage that used a rapid shaking of the cosmetologist's arms and fingers.

The vibration massage stroke is extremely stimulating.

PAGE 1

THE FOLLOWING QUESTIONS WILL TEST YOUR KNOWLEDGE OF THE BASIC MOVEMENTS USED IN MASSAGES AND THE NAMES OF THE NERVE POINTS OF THE FACE, SCALP AND NECK.

****

GE 2

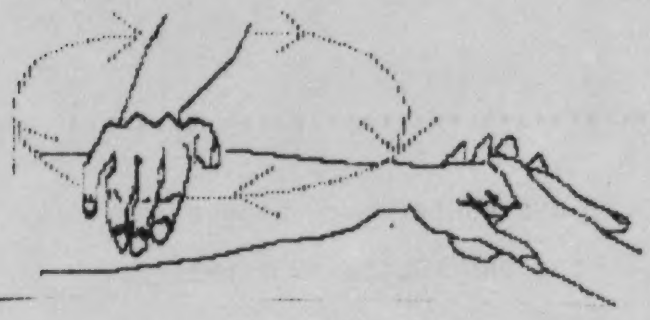
QUESTIONS NUMBER ONE THROUGH SEVEN WILL USE THE FOLLOWING TERMS:

EFFLEURAGE	FULLING
HACKING	WRINGING
FRICTION	CHUCKING
ROLLING	

WRITE THESE WORDS ON A SCRAP SHEET OF PAPER. YOU WILL BE ASKED TO TYPE THE CORRECT WORD THAT DESCRIBES EACH MASSAGE MOVEMENT.

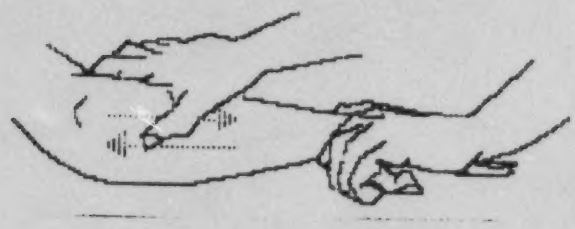
PAGE 3
FIGURE 1

1) The palm is applied in a slow rhythmic manner over the skin.



1. THIS HAND MASSAGE MOVEMENT IS ----------.

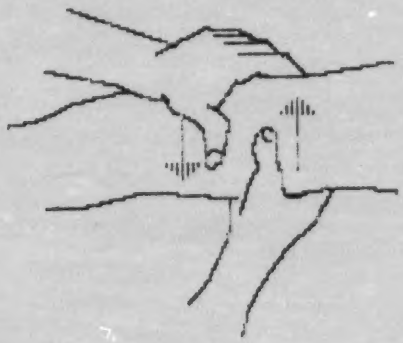
2) Friction is applied by moving the hand up and down along the bone.



2. THIS HAND MASSAGE MOVEMENT IS ---------.

PAGE 5
FIGURE 3

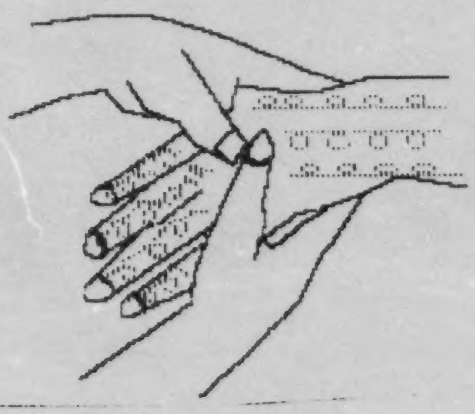
3) Friction is applied by twisting the flesh of the arm in opposite directions.



3. THIS HAND MASSAGE MOVEMENT IS
---.

PAGE 6
FIGURE 4

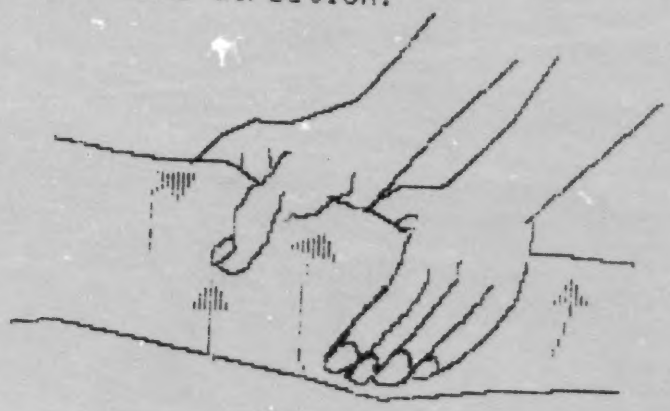
4) A deep rubbing movement is applied with a circular motion of the fingers.



4. THIS HAND MASSAGE MOVEMENT IS
---.

PAGE 7
FIGURE 5

5) Friction is applied by pressing the flesh of the arm with both hands in the same direction.



5. THIS HAND MASSAGE MOVEMENT IS
---.

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PAGE 8
FIGURE 6

6) Kneading is applied with the fingers of both hands.

6. THIS HAND MASSAGE MOVEMENT IS
--------.

PAGE 9
FIGURE 7

The ulnar border of the hands strikes alongside the arm in alternate succession.

7. THIS HAND MASSAGE MOVEMENT IS
---.

PAGE 10

MATCHING
---

8. EFFLEURAGE ---
9. PETRISSAGE ---
10. FRICTION ---
11. TAPOTEMENT ---
12. VIBRATION ---

A. KNEADING
B. SHAKING
C. STROKING
D. DEEP RUBBING
E. SLAPPING

****

PAGE 11
FIGURE 8

CHOOSE FROM THESE WORDS THE CORRECT ANSWER.

Brachial Plexus
Mandibular Branch
Temporal Branch
Main Facial Nerve
Buccal Branch
Cervical Nerve

13. NUMBER 1 IS THE
--- ------.

PAGE 12
FIGURE 9

CHOOSE FROM THESE WORDS THE CORRECT ANSWER.

Brachial Plexus
Mandibular Branch
Temporal Branch
Main Facial Nerve
Buccal Branch
Cervical Nerve

14. NUMBER 2 IS THE
---- ------ -----.

PAGE 13
FIGURE 10

CHOOSE FROM THESE WORDS THE CORRECT ANSWER.

Brachial Plexus
Mandibular Branch
Temporal Branch
Main Facial Nerve
Buccal Branch
Cervical Nerve

15. NUMBER 3 IS THE
------ ------.

PAGE 14
FIGURE 11

CHOOSE FROM THESE WORDS THE CORRECT ANSWER.

Brachial Plexus
Mandibular Branch
Temporal Branch
Main Facial Nerve
Buccal Branch
Cervical Nerve

16. NUMBER 4 IS THE
---------- -------.

PAGE 15
FIGURE 12

CHOOSE FROM THESE WORDS THE CORRECT ANSWER.

Brachial Plexus
Mandibular Branch
Temporal Branch
Main Facial Nerve
Buccal Branch
Cervical Nerve

17. NUMBER 5 IS THE
-------- -----.

PAGE 16
FIGURE 13

CHOOSE FROM THESE WORDS THE CORRECT ANSWER.

Brachial Plexus
Mandibular Branch
Temporal Branch
Main Facial Nerve
Buccal Branch
Cervical Nerve

161

18. NUMBER 6 IS THE
-------- -------.

TEST - MASSAGE STROKES

PAGE 17

	ANSWERS	PAGE REF.
1	EFFLEURAGE	0
2	CHUCKING	0
3	WRINGING	0
4	FRICTION	0
5	ROLLING	0
6	FULLING	0
7	HACKING	0
8	C	0
9	A	0
10	D	0
11	E	0
12	B	0
13	TEMPORAL BRANCH	0
14	MAIN FACIAL NERVE	0
15	BUCCAL BRANCH	0
16	MANDIBULAR BRANCH	0
17	CERVICAL NERVE	0
18	BRACHIAL PLEXUS	0

FOOTNOTES

PAGE 3
REPRINTED FROM WORKBOOK FOR BEAUTY CULTURE THEORY BY PERMISSION OF MILADY PUBLISHING CORPORATION, P.114.

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IBID.

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IBID.

PAGE 14
IBID.

PAGE 15
IBID.

PAGE 16
IBID.

GLOSSARY

BRACHIAL PLEXUS

bra chi al plex us

Lower cervical and upper dorsal spinal nerves. Number 6 on the diagram is the brachial plexus.

The brachial plexus supplies the arm, forearm, and hand.

BUCCAL BRANCH

buc cal branch

A motor nerve affecting the buccinator and the obicularis oris muscle. Number 3 on the diagram is the buccal branch.

The buccal branch affects the muscles of the mouth.

CERVICAL NERVE

cer vi cal nerve

Affects the side of the neck and the platysma muscle. Number 5 on the diagram is the cervical nerve.

Cervical nerves originate at the spinal cord.

CHUCKING

chuck ing

Moving one hand up and down along the bone, while the other hand holds the limb steady.

Chucking is a type of friction.

Friction is applied by moving the hand up and down along the bone.

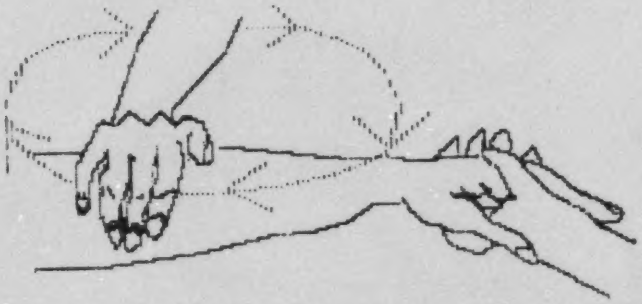
EFFLEURAGE

ef fleu rage

A light, stroking movement in massage.

Effleurage over large surfaces requires the palm; over small surfaces the finger tips.

The palm is applied in a slow rhythmic manner over the skin.



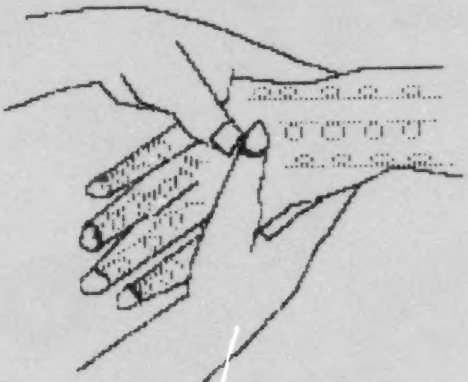
FRICTION

fric tion

The resistance encountered in rubbing one body on another.

There is high friction between wood and sandpaper.

A deep rubbing movement is applied with a circular motion of the fingers.



FULLING

full ing

A massage movement in which the limb is rolled back and forth between the hands.

Fulling is used mainly in the massage of the arms.

Kneading is applied with the fingers of both hands.

HACKING

hack ing

A chopping stroke made with the edge of the hand in massage.

Hacking movements are used mainly in the massage of the back, shoulders and arms.

The ulnar border of the hands strikes alongside the arm in alternate succession.

KNEADING

knead ing

To work and press with the hands.

When kneading, the pressure should be light but firm.

MAIN FACIAL NERVE

main fa cial nerve

The chief motor nerve of the face, emerging near the lower part of the ear.
Number 2 on the diagram is the main facial nerve.

The main facial nerve and its branches control all the muscles of facial expression.

MANDIBULAR BRANCH

man di bu lar branch

A branch of the fifth cranial nerve which supplies the muscle and skin of the lower part of the face.
Number 4 on the diagram is the mandibular branch.

The mandibular branch affects the jaw.

PETRISSAGE

pet ris sage

The kneading movement in massage including squeezing, rolling, or pinching.

Petrissage relaxes muscles.

Friction is applied by pressing the flesh of the arm with both hands in the same direction.

ROLLING

roll ing

A massage movement in which the tissues are pressed and twisted.

A rolling massage is very relaxing after a long day.

TAPOTEMENT

ta pote ment

A massage movement using a short, quick slapping or tapping movement.

Tapotement is very stimulating in massage.

TEMPORAL BRANCH

tem po ral branch

The bone at the side and base of the skull.
Number 1 on the diagram is the temporal branch.

The temporal branch affects the muscles of the temple, side of the forehead, eyebrow, eyelid and upper part of the cheek.

VIBRATION

vi bra tion

A swinging, shaking sensation on the body, producing stimulation.

A vibration movement should be limited to only a few seconds on any one spot.

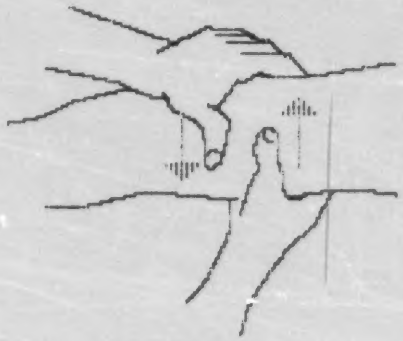
WRINGING

wring ing

A downward movement of the hands, while the flesh is twisted against the bone in opposite directions.

Wringing is used to massage the arm or leg.

Friction is applied by twisting the flesh of the arm in opposite directions.



4

Chemistry

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

CHEMISTRY

VOCABULARY:

CHEMISTRY

SUBSTANCES

CHEMICAL CHANGE

ORGANIC CHEMISTRY

COMPOUNDS

ATOM

MOLECULE

INORGANIC CHEMISTRY

PAGE 3

VOCABULARY (CONTINUED)

PHYSICAL CHANGE

ALTER

REACTION

****

PAGE 4

CHEMISTRY IS A SCIENCE THAT STUDIES THE MAKEUP OF SUBSTANCES AND THE CHANGES THAT THESE SUBSTANCES UNDERGO. WHEN A COSMETOLOGIST APPLIES CHEMICALS TO THE HAIR, OR CREAMS TO THE FACE OR SKIN, CERTAIN CHEMICAL CHANGES TAKE PLACE. THE COSMETOLOGIST SHOULD HAVE AN UNDERSTANDING OF WHAT AND HOW THESE CHANGES AFFECT THE PATRON.

PAGE 5

THE SCIENCE OF CHEMISTRY HAS TWO BRANCHES: ORGANIC AND INORGANIC.

ORGANIC CHEMISTRY DEALS WITH CARBON AND ITS COMPOUNDS (SUBSTANCES THAT HAVE MORE THAN ONE KIND OF ATOM, WHICH ARE BONDED TOGETHER INTO MOLECULES).

INORGANIC CHEMISTRY DEALS WITH SUBSTANCES FOUND IN, OR ON, THE EARTH, SUCH AS MINERALS.

****

PAGE 6

CHANGE CAN AFFECT EITHER ORGANIC OR INORGANIC MATTER. A PHYSICAL CHANGE ALTERS THE SIZE, SHAPE OR CONDITION OF THE SUBSTANCE WITHOUT CHANGING THE CHEMICAL MAKEUP OF THE SUBSTANCE. WATER UNDERGOES A PHYSICAL CHANGE WHEN IT BECOMES ICE. ICE LOOKS DIFFERENT, BUT THE SUBSTANCE, WATER, REMAINS THE SAME IN ITS CHEMICAL MAKEUP.

PAGE 7

WHEN A CHEMICAL CHANGE CREATES A NEW SUBSTANCE, THE MOLECULES ARE CHANGED. THIS NEW SUBSTANCE HAS MOLECULES WHICH DIFFER IN KINDS AND AMOUNTS OF ATOMS FROM THE ORIGINAL MATERIAL.

****

PAGE 8

1. WATER FREEZING INTO ICE IS AN EXAMPLE OF A -----.

   A. CHEMICAL CHANGE

   B. PHYSICAL CHANGE

PAGE 9

2. CHEMICAL CHANGE PRODUCES ---.

A. A NEW SUBSTANCE

B. AN ORGANIC REACTION

C. AN INORGANIC REACTION

****

PAGE 10

3. CHEMICALS APPLIED TO THE HAIR

-----.

A. MAY CAUSE A CHANGE IN THE HAIR SHAFT

B. MAY HARM THE HAIR SHAFT IF INCORRECTLY APPLIED

C. BOTH A AND B ARE CORRECT

D. NONE OF THE ABOVE

PAGE 11

	ANSWERS	PAGE REF.
1	B	6
2	A	7
3	C	4

CHEMISTRY

GLOSSARY

ALTER

al ter

To make or become different, change.

A physical change alters the size, shape or condition of the substance without changing the chemical makeup of the substance.

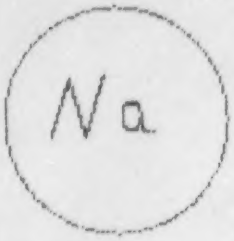
ATOM

at om

The smallest particle of an element that can exist alone.

Each atom of an element is like all other atoms of that same element.

ATOM- The smallest part of any element. This is one atom of sodium.



CHEMICAL CHANGE

chem i cal change

A chemical change produces a new substance. This new substance has different properties from the original substance.

Soap is the new substance formed from the chemical reaction between potassium hydroxide and fat.

CHEMISTRY

chem is try

A science that studies the properties of substances and the changes the substances undergo.

Mary had chemistry seventh period.

COMPOUND

com pound

Two or more elements that come together.

Water (H_2O) is a compound.

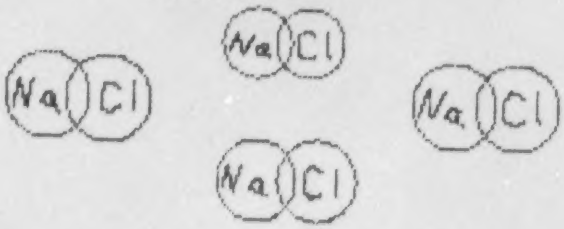
INORGANIC CHEMISTRY

in or gan ic chem is try

A part of chemistry that studies substances found in or on the earth.

In inorganic chemistry class, we studied different kinds of minerals.

COMPOUND- A substance that is composed of two or more elements in a fixed and definite proportion. A compound is composed of two or more molecules. The compound below is sodium chloride.



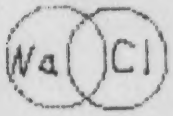
MOLECULE

mol e cule

The smallest particle of a compound that keeps the chemical identity of the substance.

Each material is different from others because it is made of different kinds of molecules.

MOLECULE- The smallest particle of a compound that keeps the chemical identity of the substance. A molecule is made up of more than one kind of atom. The molecule below is one molecule of sodium chloride commonly known as table salt. It is composed of one atom of each, sodium and chloride.



ORGANIC CHEMISTRY

or gan ic chem is try

A part of chemistry that studies the substances in any living thing, animal or vegetable.

Organic chemistry is studied by doctors.

PHYSICAL CHANGE

phys i cal change

A change that changes the appearance of a substance without making a new substance.

An example of a physical change is ice melting into water.

REACTION

re ac tion

A response to change.

The popping of popcorn is caused by a rapid reaction to heat.

SUBSTANCE

sub stance

The physical material from which something is made.

Chemistry is a science that studies the makeup of substances and the changes these substances undergo.

SODIUM CHLORIDE

so di um chlo ride

Salt, the chemical name for salt.

Sodium chloride is salt.

PAGE 1

ELEMENTS - ATOMS - MOLECULES

MATTER

ATOM

ELEMENT

SUBSTANCE

DECOMPOSE

MOLECULE

PARTICLE

SODIUM CHLORIDE

COMPOUND

****

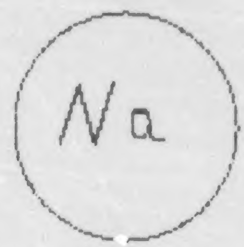
PAGE 2

MATTER IS ANYTHING THAT TAKES UP SPACE AND HAS WEIGHT. ALL MATTER IS MADE OF TINY BITS OF MATERIAL CALLED ATOMS.

PAGE 3
FIGURE 1

CHEMISTRY

ATOM- The smallest part of any element.
This is one atom of sodium.



Na is the chemical symbol for sodium.

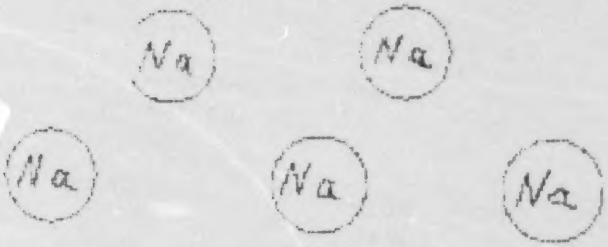
****

PAGE 4

SOME MATERIALS HAVE ONLY ONE KIND OF ATOM. THESE MATERIALS ARE CALLED ELEMENTS. OXYGEN, CARBON, AND IRON ARE ALL ELEMENTS. THERE ARE 103 NATURAL ELEMENTS. A LIST OF ELEMENTS IS AVAILABLE FOR YOUR REFERENCE.

PAGE 5
FIGURE 2

ELEMENT- A substance that is made up of atoms of only one kind. An element is a pure substance that cannot be decomposed into any simpler pure substance. This is the element sodium.

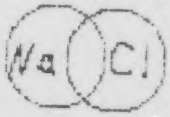


Na is the chemical symbol for sodium.

****

PAGE 6
FIGURE 3

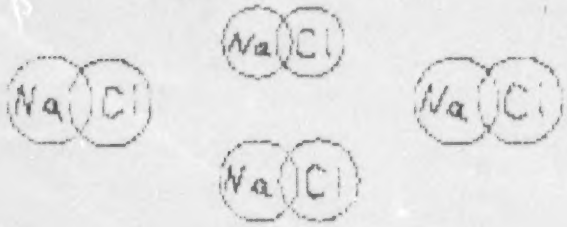
MOLECULE- The smallest particle of a compound that keeps the chemical identity of the substance. A molecule is made up of more than one kind of atom. The molecule below is one molecule of sodium chloride commonly known as table salt. It is composed of one atom of each, sodium and chlorine.



Na is the chemical symbol for sodium.
Cl is the chemical symbol for chlorine.

PAGE 7
FIGURE 4

COMPOUND- A substance that is composed of two or more elements in a fixed and definite proportion. A compound is composed of two or more molecules. The compound below is sodium chloride.



Na is the chemical symbol for sodium.
Cl is the chemical symbol for chlorine.

****

PAGE 8

1. A SUBSTANCE IN WHICH ALL THE ATOMS ARE THE SAME IS CALLED A(N) -----.

A. COMPOUND

B. ELEMENT

C. MATTER

182

GE 9

2. A COMBINATION OF MOLECULES WITH MORE THAN ONE ELEMENT IS CALLED A(N) -----.

A. ATOM

B. OXIDE

C. COMPOUND

****

PAGE 10

3. ANYTHING THAT TAKES UP SPACE AND HAS WEIGHT IS CALLED ---.

A. AN ATOM

B. MATTER

C. A MOLECULE

PAGE 11

4. THERE ARE 103 DIFFERENT NATURAL

----.

A. ATOMS

B. ELEMENTS

C. MOLECULES

****

PAGE 12

	ANSWERS	PAGE REF.
1	B	5
2	C	7
3	B	2
4	B	4

PERIODIC TABLE OF THE ELEMENTS

Table of Radioactive Isotopes

As 227(22y)β^-,α
Ag 110(24s)β^-,γ
111(7.5d)β^-,γ
Am241(458y)α,γ,β^-
242(16.0h)β^-,K,α,γ
243(8000y)α,γ
As 76(26.7h)β^-,γ
77(39h)β^-,γ
At 210(8.3h)K,α,γ
211(7.2h),K,α,γ
Au 198(2.69d)β^-,γ
Ba 131(12d)K,γ
133(7.2y)K,γ,β^-
Bi $2\frac{1}{2}$(5d)β^-,α
Bk 245(4.9d)K,α,γ
249(314d)β^-,α,SF
Br 82(36h)β^-,γ
C 14(5700y)β^-
Ca 41(8x10⁴y)K
45(165d)β^-
47(4.5d)β^-,γ
Cd 115(43d)β^-,γ
Ce 141(32d)β^-,γ
143(33h)β^-,γ
144(285d)β^-,γ
Cf 246(35h)α,γ,SF
249(360y)α,γ,SF
251(800y)γ
Cl 36(3x10⁵y)β^-
Cm 243(35y)α,γ
245(9300y)α,γ
247(10⁷y)
Co 58(71d),K,β^+,γ
60(5.27y)β^-,γ
Cr 51(27d),K,γ
Cs 134(2.0y)β^-,γ
135(3x10⁶y)β^-
137(30y)β^-,γ
Cu 64(12.8h)K,β^-,β^+,γ
Es 253(20d)α,γ,SF
254(1y)α,SF
Eu 154(16y)β^-,γ
155(1.8y)β^-,γ
Fe 55(2.6y)K
59(45d)β^-,γ
Fm 255(20h)α
Fr 223(22m)β^-,γ,α
Ga 72(14.1h)β^-,γ
Gd 153(236d)K,γ,α
159(18h)β^-,γ
Ge 71(11d)K
H 3(12.3y)β^-
Hf 181(45d)β^-,γ,α
Hg 197(65h)K,γ,α
203(47d)β^-,γ,α
Ho 166(27.3h)β^-,γ
I 129(10⁷y)β^-,γ,α
131(8.05d)β^-,γ
In 114(50d)γ
Ir 192(74.4d)β^-,γ
K 40(10⁹y)β^+,K,γ
42(12.4h)β^-,γ
La 140(40.2h)β^-,γ
Lu 176(10¹⁰y)β^-,K,γ
177(6.8d)β^-,γ
Md 256(90m)K,SF
Mo 99(67h)β^-,γ
Na 22(2.6y)β^+,K,γ
24(15h)β^-,γ
Nd 147(11.1d)β^-,γ
Ni 63(125y)β^-
59(8x10⁴y),K
Np 237(2.2x10⁶y)α,γ
239(2.33d)β^-,γ
Os 191(15d)β^-,γ,α
P 32(14.2d)β^-
Pa 231(34000y)α,γ
Pb 210(19.4y)β^-,γ,α
202(10⁴y)K
Pd 103(17d)K,γ
Pm 147(2.6y)β^-
Po 210(138.4d)α,γ
209(103y)α,K,γ
Pr 143(13.8d)β^-
Pt 197(18h)β^-,γ
Pu 242(3.8 x 10⁵y)α,SF
241(13y)β^-,α,γ
239(24300y)α,γ,SF
Ra 226(1620y)α,γ
Rb 86(18.6d)β^-,γ
Re 188(16.7h)β^-,γ
186(3.7d)β^-,γ
Rn 222(3.82d)α
Ru 103(40d)β^-,γ
97(2.9d),K,γ,α
S 35(88d)β^-
Sb 122(2.8d)β^-,K,β^+,γ
124(60d)β^-,γ
Sc 46(84d)β^-,γ
Se 75(120d)K,γ
Sm 153(47h)β^-,γ
145(340d)K,γ
Sn 113(119d)K,L,γ,α
Sr 90(28y)β^-
89(51d)β^-,γ
85(64d)K,γ
Te 182(115d)β^-,γ
Tb 160(73d)$\beta^-\gamma$
Tc 99(2x10⁵y)β^-
97(10⁶y)K
Te 127(9.3h)β^-
Th 232(1.4x10¹⁰y)α,γ,SF
228(1.91y)β^-
Tl 204(3.81y)β^-,K
Tm 170(134d)β^-,γ,α^-
U 238(4.5x10⁹y)α,γ,SF
234(2.5x10⁵y)α,γ,SF
235(7.1x10⁸y)α,γ,SF
233(1.6x10⁵y)α,γ
W 185(75d)β^-
Y 90(64h)β^-,α^-
Yb 175(4.2d)β^-,γ
169(31d)K,γ,α^-
Zn 65(245d)K,β^+,γ
Zr 95(65d)β^-,γ,α^-
93(9x10⁶y)β^-,γ

Naturally occurring radioactive isotopes are indicated by a blue mass number. Half lives are in parentheses where s, m, h, d and y stand for seconds, minutes, hours, days and years respectively. The symbols describing the mode of decay and resulting radiation are defined as follows:

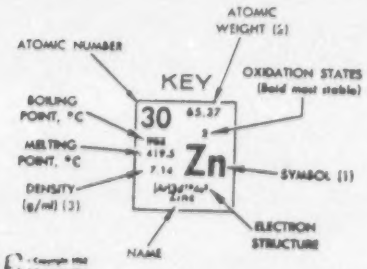
- α alpha particle
- β^- beta particle
- β^+ positron
- K K-electron capture
- L L-electron capture
- SF spontaneous fission
- γ gamma ray
- e^- internal electron conversion

GROUP IA	IIA	IIIB	IVB	VB	VIB	VIIB	VIII			IB	IIB	IIIA	IVA	VA	VIA	VIIA	VIIIA
1 1.00797 −252.7 −259.2 0.071 1 H Hydrogen																	2 4.0026 −268.9 −269.7 0.126 He Helium
3 6.939 1330 180.5 0.53 1 Li Lithium	4 9.0122 2770 1277 1.85 2 Be Beryllium																
11 22.9898 892 97.8 0.97 1 Na Sodium	12 24.312 1107 650 1.74 2 Mg Magnesium											13 26.9815 2450 660 2.70 3 Al Aluminum	14 28.086 2680 1410 2.33 4 Si Silicon	15 30.9738 ±2,3,4 280w 44.2w 1.82w 3 P Phosphorus	16 32.064 444.6 119.0 2.07 ±2,4,6 S Sulfur	17 35.453 −34.7 −101.0 1.56 ±1,3,5,7 Cl Chlorine	18 39.948 −185.8 −189.4 1.40 Ar Argon
19 39.102 760 63.7 0.86 1 K Potassium	20 40.08 1440 838 1.55 2 Ca Calcium	21 44.956 2730 1539 3.0 3 Sc Scandium	22 47.90 3260 1668 4.51 4,3 Ti Titanium	23 50.942 3450 1900 6.1 5,4,3,2 V Vanadium	24 51.996 2665 1875 7.19 6,3,2 Cr Chromium	25 54.938 2150 1245 7.43 7,6,4,3,2 Mn Manganese	26 55.847 3000 1536 7.86 2,3 Fe Iron	27 58.933 2900 1495 8.9 2,3 Co Cobalt	28 58.71 2730 1453 8.9 2,3 Ni Nickel	29 63.54 2595 1083 8.96 2,1 Cu Copper	30 65.37 906 419.5 7.14 2 Zn Zinc	31 69.72 2237 29.8 5.91 3 Ga Gallium	32 72.59 2830 937.4 5.32 4 Ge Germanium	33 74.922 613* 817 5.72 ±3,5 As Arsenic	34 78.96 685 217 4.79 −2,4,6 Se Selenium	35 79.909 58 −7.2 3.12 +1,5 Br Bromine	36 83.80 −152 −157.3 3.6 Kr Krypton
37 85.47 688 38.9 1.53 1 Rb Rubidium	38 87.62 1380 768 2.6 2 Sr Strontium	39 88.905 2927 1509 4.47 3 Y Yttrium	40 91.22 3580 1852 6.49 4 Zr Zirconium	41 92.906 3300 2468 8.4 5,3 Nb Niobium	42 95.94 5560 2610 10.2 6,5,4,3,2 Mo Molybdenum	43 (98) — 2140 11.5 7 Tc Technetium	44 101.07 4900 2500 12.2 2,3,4,6,8 Ru Ruthenium	45 102.905 4500 1966 12.4 2,3,4 Rh Rhodium	46 106.4 3980 1552 12.0 2,4 Pd Palladium	47 107.870 2210 960.8 10.5 1 Ag Silver	48 112.40 765 320.9 8.65 2 Cd Cadmium	49 114.82 2000 156.2 7.31 3 In Indium	50 118.69 2270 231.9 7.30 4,2 Sn Tin	51 121.75 1380 630.5 6.62 ±3,5 Sb Antimony	52 127.60 989.8 449.5 6.24 −2,4,6 Te Tellurium	53 126.904 183 113.7 4.94 ±1,5,7 I Iodine	54 131.30 −108.0 −111.9 3.06 Xe Xenon
55 132.905 690 28.7 1.90 1 Cs Cesium	56 137.34 1640 714 3.5 2 Ba Barium	57 138.91 3470 920 6.17 3 ★ La Lanthanum	72 178.49 5400 2222 13.1 4 Hf Hafnium	73 180.948 5425 2996 16.6 5 Ta Tantalum	74 183.85 5930 3410 19.3 6,5,4,3,2 W Wolfram	75 186.2 5900 3180 21.0 7,6,4,2,−1 Re Rhenium	76 190.2 5500 3000 22.6 2,3,4,6,8 Os Osmium	77 192.2 5300 2454 22.5 2,3,4,6 Ir Iridium	78 195.09 4530 1769 21.4 4,2 Pt Platinum	79 196.967 2970 1063 19.3 3,1 Au Gold	80 200.59 357 −38.4 13.6 2,1 Hg Mercury	81 204.37 1457 303 11.85 3,1 Tl Thallium	82 207.19 1725 327.4 11.4 4,2 Pb Lead	83 208.980 1560 271.3 9.8 3,5 Bi Bismuth	84 (210) — 254 (9.2) 2,4 Po Polonium	85 (210) — (302) ±1,3,5,7 At Astatine	86 (222) (−61.8) (−71) — Rn Radon
87 (223) — (27) 1 Fr Francium	88 (226) — 700 5.0 2 Ra Radium	89 (227) — 1050 — 2 ★★ Ac Actinium	104														

★

58 140.12 3468 795 6.67 3,4 Ce Cerium	59 140.907 3127 935 6.77 3,4 Pr Praseodymium	60 144.24 3027 1024 7.00 3 Nd Neodymium	61 (147) — (1027) — 3 Pm Promethium	62 150.35 1900 1072 7.54 3,2 Sm Samarium	63 151.96 1439 826 5.26 3,2 Eu Europium	64 157.25 3000 1312 7.89 3 Gd Gadolinium	65 158.924 2800 1356 8.27 3,4 Tb Terbium	66 162.50 2600 1407 8.54 3 Dy Dysprosium	67 164.930 2600 1461 8.80 3 Ho Holmium	68 167.26 2900 1497 9.05 3 Er Erbium	69 168.934 1727 1545 9.33 3,2 Tm Thulium	70 173.04 1427 824 6.98 3,2 Yb Ytterbium	71 174.97 3327 1652 9.84 3 Lu Lutetium
90 232.038 3850 1750 11.7 4 Th Thorium	91 (231) — (1230) 15.4 5,4 Pa Protactinium	92 238.03 3818 1132 19.07 6,5,4,3 U Uranium	93 (237) — 637 19.5 6,5,4,3 Np Neptunium	94 (242) 3235 640 — 6,5,4,3 Pu Plutonium	95 (243) — — 11.7 6,5,4,3 Am Americium	96 (247) — — — 3 Cm Curium	97 (247) — — — 4,3 Bk Berkelium	98 (249) — — — 3 Cf Californium	99 (254) — — — — Es Einsteinium	100 (253) — — — — Fm Fermium	101 (256) — — — — Md Mendelevium	102 (254) — — — — No Nobelium	103 (257) — — — — Lw Lawrencium

★★



NOTES:

(1) Black — solid.
Red — gas.
Blue — liquid.
Outline — synthetically prepared.

(2) Based upon carbon – 12. ( ) indicates most stable or best known isotope.

(3) Values for gaseous elements are for liquids at the boiling point.

SIDE 1

SARGENT-WELCH
SARGENT-WELCH SCIENTIFIC COMPANY
7300 LINDER AVENUE, SKOKIE, ILLINOIS 60076
CHICAGO • CINCINNATI • CLEVELAND • DETROIT • DALLAS • DENVER
BIRMINGHAM • SPRINGFIELD, N. J. • ANAHEIM, CALIF. • TORONTO, CANADA

ELEMENTS, ATOMS AND MOLECULES

GLOSSARY

ATOM- The smallest part of any element. This is one atom of sodium.

ATOM

at om

The smallest particle of an element that can exist alone.

Each atom of an element is like all other atoms of that same element.

Na is the chemical symbol for sodium.

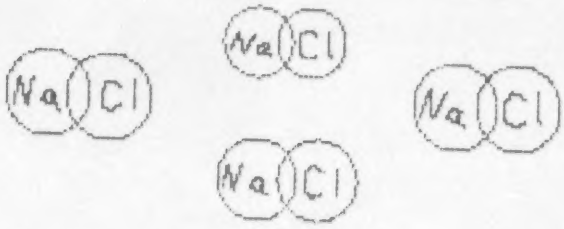
COMPOUND- A substance that is composed of two or more elements in a fixed and definite proportion. A compound is composed of two or more molecules. The compound below is sodium chloride.

COMPOUND

com pound

Two or more elements tha' come together.

Water (H_2O) is a compound.



Na is the chemical symbol for sodium.
Cl is the chemical symbol for chlorine.

DECOMPOSE

de com pose

To separate into its different parts.

An element is a pure substance that cannot be decomposed into any simpler pure substance.

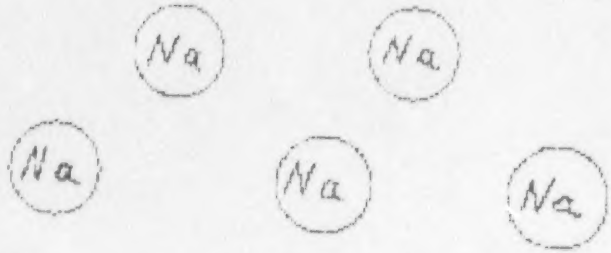
ELEMENT

el e ment

There are over 100 fundamental substances (103 exactly) that are made up of atoms of only one kind. They make up, either by themselves or in combination, all matter.

Carbon and gold are elements.

ELEMENT- A substance that is made up of atoms of only one kind. An element is a pure substance that cannot be decomposed into any simpler pure substance. This is the element sodium.



Na is the chemical symbol for sodium.

MATTER

mat ter

Anything that takes up space and weight. Any physical object which you can see and feel is made up of matter.

All matter is made up of tiny molecules.

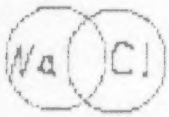
MOLECULE

mol e cule

The smallest particle of a compound that keeps the chemical identity of the substance.

Each material is different from others because it is made of different kinds of molecules.

MOLECULE- The smallest particle of a compound that keeps the chemical identity of the substance. A molecule is made up of more than one kind of atom. The molecule below is one molecule of sodium chloride commonly known as table salt. It is composed of one atom of each, sodium and chlorine.



Na is the chemical symbol for sodium.
Cl is the chemical symbol for chlorine.

PARTICLE

par ti cle

A very small bit of matter.

A molecule is the smallest particle of a compound that keeps the chemical identity of the substance.

COMPOUNDS

VOCABULARY:

COMPOUND

ELEMENT

CHEMICALLY UNITE

CHEMICAL FORMULA

COMPONENT PARTS

SYMBOL

OXIDES

ACID

****

VOCABULARY:(CONTINUED)

BASE

SALT

ANALYSIS

SYNTHESIS

LANOLIN

PAGE 3

COMPOUNDS ARE TWO OR MORE ELEMENTS THAT UNITE CHEMICALLY. COMPOUNDS ARE DIVIDED INTO FOUR CATEGORIES:

1. OXIDES ARE COMPOUNDS FORMED BY ANY ELEMENT AND OXYGEN.
2. ACIDS ARE COMPOUNDS CONTAINING A NON-METAL, HYDROGEN AND OXYGEN.
3. A BASE IS A COMBINATION OF A METAL; OXYGEN AND HYDROGEN.
4. A SALT IS A COMPOUND OF A NON-METAL; A METAL AND SOMETIMES OXYGEN.

****

PAGE 4
FIGURE 1

EACH CHEMICAL COMPOUND IS KNOWN TO A SCIENTIST BY THE SYMBOL OF THE ELEMENT FROM WHICH IT IS MADE. THE CHEMICAL FORMULA FOR WATER IS H_2O. THERE ARE TWO ATOMS OF HYDROGEN (H_2) AND ONE ATOM OF OXYGEN (O). THIS COMBINATION OF HYDROGEN AND OXYGEN UNITE TO FORM ONE MOLECULE OF WATER.

PAGE 5

THE CHEMIST MAY PERFORM AN ANALYSIS OF A COMPOUND. THIS IS A PROCESS WHERE THE COMPOUND IS SEPARATED, OR BROKEN DOWN, INTO ITS PARTS OR ELEMENTS. AS A COSMETOLOGIST, YOU MAY FIND A COSMETIC OR CHEMICAL WHICH YOU MIGHT WANT ANALYZED BEFORE USING IT ON A PATRON.

****

PAGE 6

A CHEMIST CAN ALSO PERFORM A SYNTHESIS, WHICH IS THE COMBINING OF COMPOUNDS TO MAKE A NEW PRODUCT. COSMETICS ARE MADE THIS WAY. NIGHT CREAMS ARE FORMED USING A VARIETY OF MINERAL OILS, ALCOHOL, WATER, LANOLIN, AND A COMBINATION OF OTHER SUBSTANCES.

PAGE 7

1. AN ANALYSIS OF A COMPOUND IS

---.

A. THE BREAKING DOWN OF THE COMPOUND INTO ITS COMPONENT PARTS

B. THE ADDITION OF SUBSTANCES TO FORM A NEW SUBSTANCE

C. DONE BY A COSMETOLOGIST

****

PAGE 8

2. OF THE FOLLOWING, WHICH IS NOT ONE OF THE FOUR COMPOUND CATEGORIES? ---

A. OXIDES

B. SALTS

C. METALS

D. ACIDS

PAGE 9

3. THE COMBINING OF COMPOUNDS TO MAKE A NEW PRODUCT OR COSMETIC IS CALLED -----.

A. ANALYSIS

B. COMPOUNDING

C. SYNTHESIS

****

PAGE 10

	ANSWERS	PAGE REF.
1	A	5
2	C	3
3	C	6

COMPOUNDS

FOOTNOTES

PAGE 3
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PAGE 5
IBID.

GLOSSARY

ACID

ac id

A compound containing a non-metal, hydrogen and oxygen. It has a sour or sharp taste.

Lemon juice contains citric acid.

ANALYSIS

a nal y sis

The separation of a whole into its parts.

An analysis of a compound is performed by a chemist.

BASE

base

A compound of a metal, oxygen and hydrogen.

Sodium hydroxide is a base.

CHEMICAL FORMULA

chem i cal for mu la

Combination of the symbols to show what the element contains. H_2O is the chemical symbol for water. Water contains two elements: hydrogen and oxygen. There are 2 parts hydrogen to every 1 part oxygen.

NaCl is the chemical formula for table salt.

CHEMICALLY UNITE

chem i cal ly u nite

Two or more elements that come together to form a compound.

Oxides are formed when an element chemically unites with oxygen.

COMPONENT PARTS

com po nent parts

Serving as one of the units of a whole. A portion or division of the whole.

A speaker is one of the component parts of a stereo system.

COMPOUND

com pound

Two or more elements that come together.

Water (H_2O) is a <u>compound</u>.

ELEMENT

el e ment

There are over 100 fundamental substances (103 exactly) that are made up of atoms of only one kind. They make up, either by themselves or in combination, all matter.

Carbon and gold are <u>elements</u>.

LANOLIN

lan o lin

A fatty substance obtained from sheep wool and used as a base for ointments, cosmetics, etc.

The cream contained a <u>lanolin</u> base.

OXIDES

ox ides

A compound of oxygen and any other element.

Carbon dioxide is an example of an <u>oxide</u>.

SALT

salt

A compound of a metal, a non-metal and sometimes oxygen.

Sodium chloride is table <u>salt</u>.

SYNTHESIS

syn the sis

The combination of compounds (parts or elements) to form a new product.

<u>Synthesis</u> is the production of a new substance by uniting two or more elements or compounds.

200

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

ACIDITY AND ALKALINITY

VOCABULARY:

ACID

BASE

ALKALIES

SALT

PH (POTENTIAL HYDROGEN)

PH SCALE

NEUTRAL

LYE

PAGE 3

VOCABULARY (CONTINUED)

AVOID

LITMAS

LITMAS PAPER

LITMAS TEST

COLD WAVE SOLUTION

NEUTRALIZER

DEPILATORIES

NITRIC ACID

****

PAGE 4

ACIDS ARE A COMPOUND. THEY CONTAIN

HYDROGEN AND A NON-METALLIC

ELEMENT.

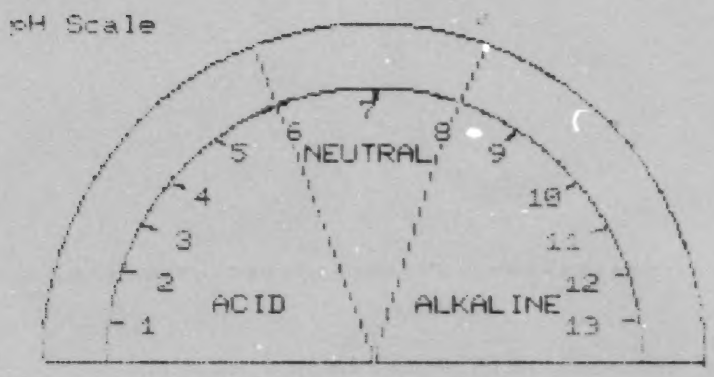
BASES ARE ALSO CALLED ALKALIES.

THEY CONTAIN HYDROGEN, OXYGEN AND

A METAL COMPOUND.

WHEN AN ACID AND A BASE (ALKALI)

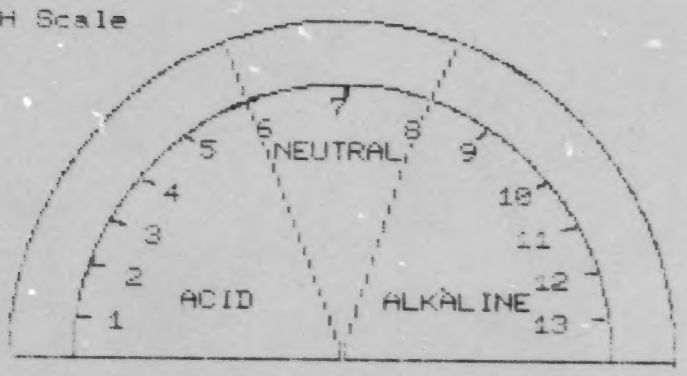
REACT TOGETHER, THEY FORM A SALT.



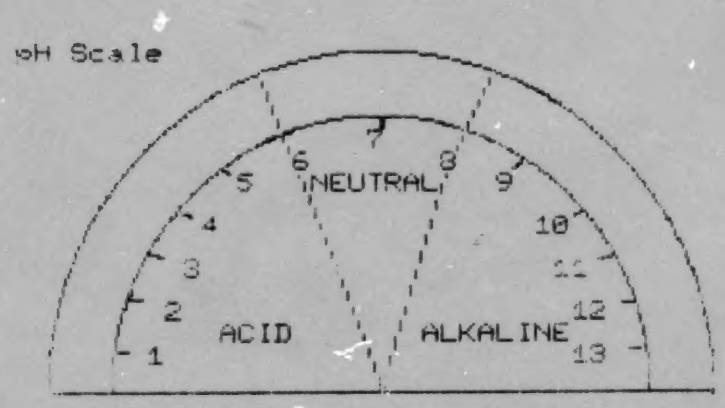
THE PH (POTENTIAL HYDROGEN) OF A LIQUID TELLS THE DEGREE OF ACIDITY OR ALKALINITY IT POSSESSES.

PAGE 6
FIGURE 2

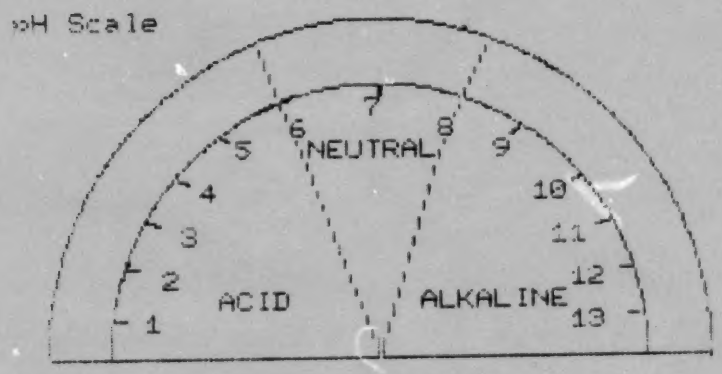
pH Scale



THE PH SCALE BEGINS AT 0 AND GOES TO 14. THE NEUTRAL OR MEDIUM POINT IS 7.



ANYTHING LESS THAN 7 IS ACID. THE CLOSER TO 0, THE STRONGER THE ACID.



A PH GREATER THAN 7 IS A BASE (ALKALI). THE HIGHER THE NUMBER, THE STRONGER THE ALKALINITY.

PAGE 9

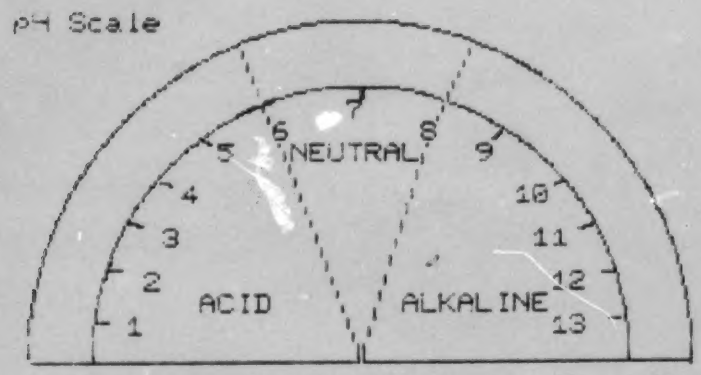
COSMETICS AND SALON PRODUCTS WILL VARY IN THE PH VALUES THEY HAVE. SHAMPOOS HAVE A PH FROM 6 TO 10. COSMETOLOGISTS SHOULD CHECK THE PH OF ALL ITEMS USED ON PATRONS. VERY STRONG ACID PRODUCTS AND VERY STRONG ALKALINE PRODUCTS SHOULD BE AVOIDED.

****

PAGE 10

A LITMUS TEST IS USED TO CHECK THE PH OF A LIQUID. LITMUS PAPER, OR NITRAZINE PAPER, IS DIPPED INTO THE LIQUID AND THE PAPER TURNS A COLOR. THIS COLOR IS CHECKED ON A COLOR CHART AND WILL GIVE A PH NUMBER. ACIDS TURN BLUE LITMUS PAPER RED. BASES OR ALKALIES TURN RED LITMUS PAPER BLUE.

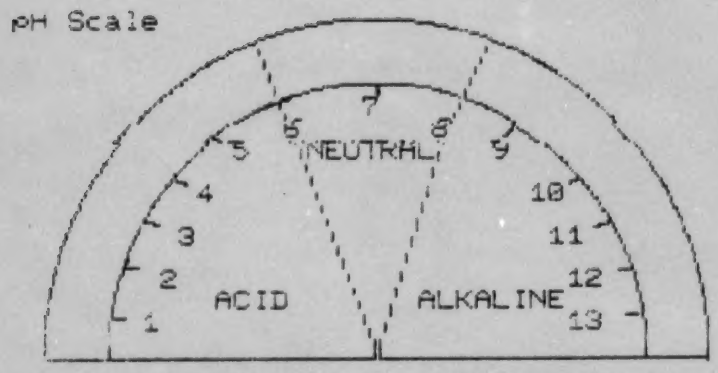
PAGE 11
FIGURE 5



1. Cold wave solutions are usually alkaline up to 9.5.
2. Soaps up to 9.5 are safe for patrons.
3. Shampoos range from 6 to 10.
4. Depilatories, used to remove hair from the body, are above 10.

****

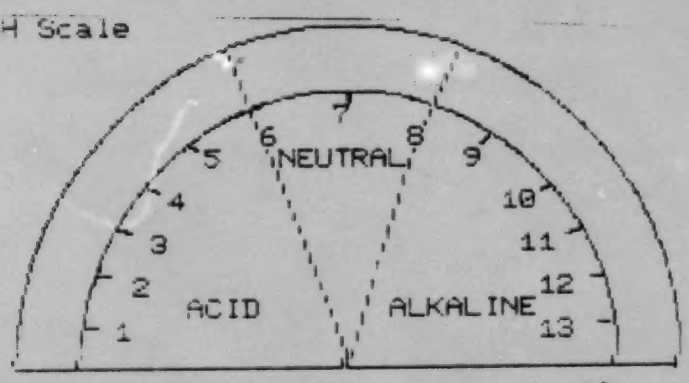
PAGE 12
FIGURE 6



1. Lemon juice, which contains citric acid, would have a pH value of ---.
   A. below 6 B. above 8

TYPE IN YOUR RESPONSE. ---

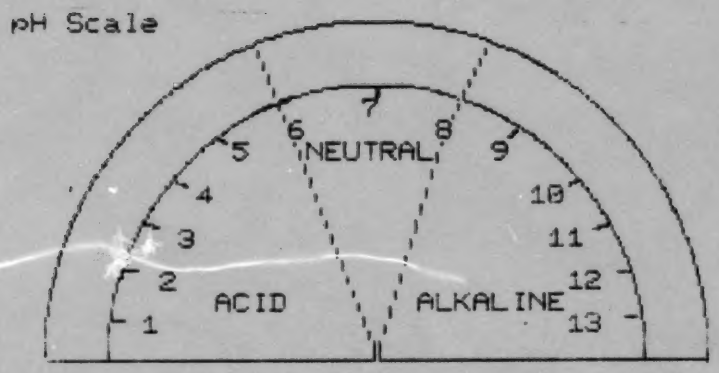
95



2. Nair Creme Hair Remover, a depilatory, would have a pH value of ---.
A. 12.6 B. 1.2

TYPE IN YOUR RESPONSE. ---

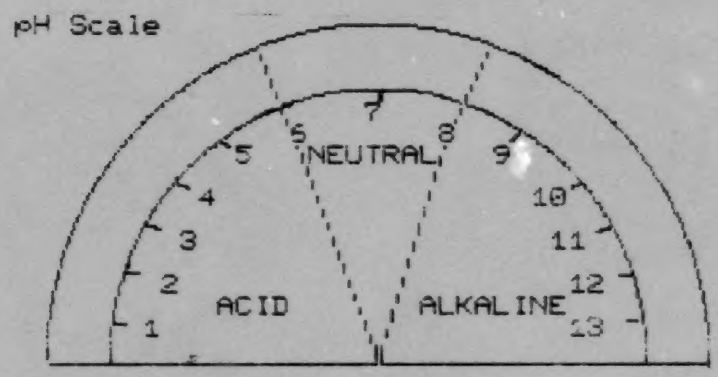
PAGE 14
FIGURE 8



3. Clairol Herbal Essence shampoo might have a pH value of ----.
A. 3.5 B. 8.0

A. 3.5 B. 8.0
TYPE IN YOUR RESPONSE. ---

PAGE 15
FIGURE 9



4. A soap with a pH value of ---- is unsafe for patrons.
A. 7.0 B. 13.5

TYPE IN YOUR RESPONSE. ---

PAGE 16

5. A PH SCALE RANGES FROM ---.

A. 7 TO 14

B. 0 TO 14

C. 0 TO 7

****

PAGE 17

6. A LIQUID WITH A PH NUMBER OF 4 IS CONSIDERED TO BE ---.

A. AN ACID

B. NEUTRAL

C. A BASE

212

PAGE 18

7. NITRIC ACID WOULD HAVE A PH VALUE OF ---.

A. EIGHT TO ELEVEN

B. ELEVEN TO FOURTEEN

C. ONE TO SIX

****

PAGE 19

8. WATER (H_2O) HAS A PH VALUE OF ---.

A. TWELVE

B. ONE

C. SEVEN

PAGE 20

9. SKIN IS CONSIDERED TO BE SLIGHTLY ---.

A. ACID IN ITS CONTENT

B. NEUTRAL IN ITS CONTENT

C. ALKALINE IN ITS CONTENT

****

PAGE 21

10. ANY LIQUID WITH A PH VALUE OF TWELVE IS A(N) ---.

A. NEUTRAL SUBSTANCE

B. ALKALINE SUBSTANCE

C. ACID SUBSTANCE

PAGE 22

	ANSWERS	PAGE REF.
1	A	
2	A	11
3	B	11
4	B	11
5	B	6
6	A	7
7	C	7
8	C	5
9	A	5
10	B	8

****

ACIDITY AND ALKALINITY

FOOTNOTES

PAGE 5
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PAGE 6
IBID.

PAGE 7
IBID.

PAGE 8
IBID.

PAGE 11
IBID.

PAGE 12
IBID.

PAGE 13
IBID.

PAGE 14
IBID.

PAGE 15
IBID.

GLOSSARY

ACID

ac id

A compound containing a non-metal, hydrogen and oxygen. It has a sour or sharp taste.

Lemon juice contains citric acid.

ALKALI

al ka li

Another name for a base. The plural form is alkalies. A compound of a metal, oxygen and hydrogen.

Sodium hydroxide is an alkali used in making soap.

AVOID

a void

To keep away from; to keep from happening.

Sally tried to avoid a quarrel with the client.

BASE

base

A compound of a metal, oxygen and hydrogen. Also known as an alkali.

Sodium hydroxide is a <u>base</u>.

CHEMICAL WAVE SOLUTION

chem i cal wave so lu tion

Used to soften the hair so it can be rearranged into a curl pattern. It is a solution applied to the hair that breaks down the bonds within the hair shaft. Once the bonds have been broken down they are rearranged into a desired curl pattern.

The strength of a <u>chemical wave solution</u> can be adjusted by changing the amount of the active ingredient, ammonium thioglycolate.

DEPILATORIES

de pil a to ries

Used to remove hair from a part of the body.

Depilitories are used to remove unwanted hair.

LITMUS

lit mus

A purple coloring matter used as an acid-base indicator in chemical analysis; it turns blue in bases and red in acids.

Litmus is a dye used to treat absorbent paper.

LITMUS PAPER

lit mus pa per

Absorbent paper treated with litmus and used as an acid-base indicator.

Litmus paper will turn blue if the solution is a base.

LITMUS TEST

lit mus test

A small piece of specially-treated paper (litmus paper) that turns red when placed in an acid solution and turns blue in an alkaline solution. This test is used to tell if a solution is an acid or a base.

The litmus test proved the solution was an acid when the litmus paper turned bright red.

LYE

lye

A strong, alkaline solution, usually sodium or potassium hydroxide.

Lye is used in cleaning, making soaps, etc.

NEUTRAL

neu tral

Belonging to neither extreme in type, giving neither acid nor alkaline reaction.

Pure water has a neutral pH.

NEUTRALIZER

neu tral iz er

A chemical that stops the action of the cold wave lotion. It "sets" the curls into the desired new curl pattern.

The neutralizer "fixes," or rehardens, the hair.

NITRIC ACID

ni tric ac id

A colorless acid.

Nitric acid would have a pH of from one to six.

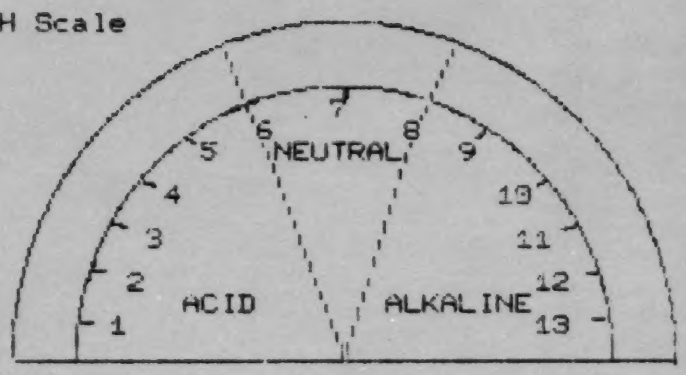
pH (POTENTIAL HYDROGEN)

pH (po ten tial hy dro gen)

Used to determine the degree of acidity or alkalinity of a liquid.

Products with a low pH number will be strong acids.

pH Scale

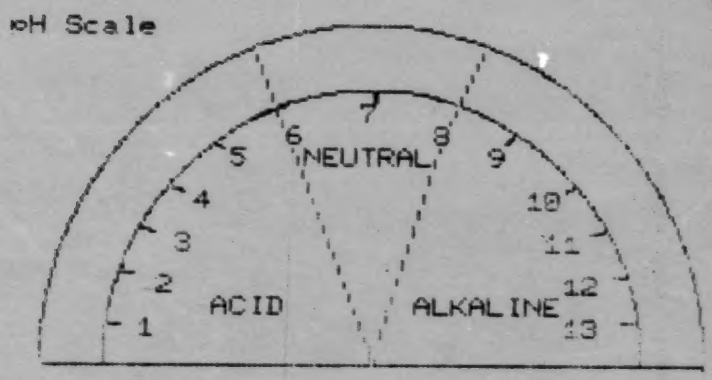


PH SCALE

pH scale

A measurer that tells the degree a liquid is acid or alkaline.

Pure water registers a number seven on the pH scale.



PAGE 1

CHEMISTRY OF WATER

VOCABULARY:

CHEMICAL SYMBOL

DISTILLED

FILTERED

IMPURITIES

HARD WATER

BORAX

SOFT WATER

CASTILE SOAP

LATHER

****

PAGE 2

WATER HAS A CHEMICAL SYMBOL OF H_2O. WATER IS USED FOR MANY PURPOSES IN THE BEAUTY SALON. WATER MAY CONTAIN DIRT OR OTHER IMPURITIES. TO REMOVE IMPURITIES AND DESTROY BACTERIA, WATER MUST BE BOILED, FILTERED, OR DISTILLED.

PAGE 3

WATER IS CLASSIFIED INTO TWO TYPES:

A. HARD WATER, AND

B. SOFT WATER.

SOFT WATER SHOULD BE USED FOR SHAMPOOING, BLEACHING OR TINTING HAIR. RAIN WATER IS SOFT WATER.

****

PAGE 4

HARD WATER CONTAINS MINERALS WHICH WILL NOT ALLOW A SHAMPOO TO LATHER WHEN WASHNG HAIR. HARD WATER ALSO MAKES IT DIFFICULT TO RINSE THE HAIR CLEAN AFTER SHAMPOOING. HARD WATER MAY BE SOFTENED BY BOILING, DISTILLATION OR BY ADDING BORAX. WATER CAN BE TESTED TO DETERMINE WHETHER IT IS HARD OR SOFT IN A VARIETY OF WAYS.

PAGE 5

HERE IS ONE WAY: DISSOLVE 3/4 OF AN OUNCE OF PURE POWDERED CASTILE SOAP IN 1 PINT OF DISTILLED WATER. PUT SEVEN DROPS OF THIS SOLUTION IN 1 PINT OF WATER TO BE TESTED. SHAKE THE BOTTLE. IF A LATHER DEVELOPS, THE WATER IS SOFT. IF NO LATHER DEVELOPS, THE WATER IS HARD.

****

PAGE 6

1. HARD WATER SHOULD ---.

   A. ALWAYS BE USED TO WASH HAIR

   B. BE BOILED, DISTILLED, OR HAVE BORAX ADDED WHENEVER POSSIBLE

   C. ALWAYS BE USED TO RINSE THE HAIR CLEAN AFTER SHAMPOOING

PAGE 7

2. WHICH OF THE FOLLOWING PROCESSES IS NOT USED TO REMOVE IMPURITIES FROM HARD WATER? ---

A. BLEACHING

B. BOILING

C. DISTILLATION

D. ADDING BORAX

****

PAGE 8

3. WATER IS CLASSIFIED INTO TWO TYPES. THEY ARE ---.

A. SOFT AND DISTILLED WATER

B. HARD AND SOFT WATER

C. DISTILLED AND MINERAL WATER

D. BORAX AND HARD WATER

PAGE 9

4. IMPURITIES IN WATER ARE ---.

A. BORAX AND SOAP

B. REMOVED WITH SOAP

C. MINERALS, DIRT OR DUST

****

PAGE 10

	ANSWERS	PAGE REF.
1	B	4
2	A	4
3	B	3
4	C	2

CHEMISTRY OF WATER

FOOTNOTES

PAGE 5

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THE CHEMISTRY OF WATER

GLOSSARY

BORAX

bo rax

A compound used as a cleaning agent or a water softener.

Aaron measured the borax to put in the water.

CASTILE SOAP

cas tile soap

A fine, mild soap prepared from olive oil and sodium hydroxide.

Castile soap was first made in Spain.

CHEMICAL SYMBOL

chem i cal sym bol

The letters that stand for or represent a chemical.

The chemical symbol for water is H_2O.

DISTILLED

dis tilled

A process where a substance is heated above its boiling point, then cooled. It is used to purify water.

Distilled water must be used in a steam iron.

FILTERED

fil tered

A strainer that is used to strain liquids. It takes impurities out of a liquid.

Filtered water is water that has been passed through a strainer to remove any impurities.

IMPURITIES

im pu ri ties

Not pure, unclean, or not wanted.

Distillation removes impurities from hard water.

LATHER

lath er

The foam formed by soap or other detergents in water.

Shaving soap makes a thick lather and softens the hair.

SOFT WATER

soft wa ter

Water containing only small amounts of minerals.

Rain water is soft water.

PAGE 1

CHEMICALS USED IN SALONS

VOCABULARY:

ALCOHOL

ANTISEPTIC

DISINFECTANT

GLYCERINE

CUTICLE OIL

CUTICLE

MANICURE

QUATERNARY AMMONIUM COMPOUNDS
(QUATS)

****

PAGE 2

VOCABULARY: (CONTINUED)

WITCH HAZEL

ASTRINGENT

PHENOL

SANITIZE

TINCTURE OF IODINE

MERCUROCHROME

BORIC ACID

EYEWASH

PAGE 3

BELOW IS A LIST OF CHEMICALS COMMONLY USED IN SALONS:

ALCOHOL IS A COLORLESS LIQUID USED TO DISINFECT AND AS AN ANTISEPTIC.

GLYCERINE IS A COLORLESS AND ODORLESS THICK LIQUID. IT CONTAINS OILS AND FATS. IT IS USED IN FACE CREAMS AND IN CUTICLE OIL TO SOFTEN THE CUTICLE FOR A MANICURE.

****

PAGE 4

QUATERNARY AMMONIUM COMPOUNDS ARE DISINFECTANTS USED TO KILL BACTERIA IN THE SALON. THEY ARE ALSO CALLED 'QUATS'.

WITCH HAZEL IS A COMBINATION OF WATER AND ALCOHOL. IT IS USED AS AN ASTRINGENT TO CLOSE THE PORES ON THE FACE OR BODY, AND HAS A COOL AND REFRESHING EFFECT ON THE SKIN.

PAGE 5

PHENOL IS MIXED WITH WATER AND
USED TO SANITIZE METALLIC INSTRU-
MENTS, SUCH AS RAZORS OR SCISSORS.

TINCTURE OF IODINE AND MERCURO-
CHROME ARE A LIGHT ORANGE IN COLOR
WHEN APPLIED TO THE SKIN. THEY ARE
APPLIED TO CUTS, SCRAPES OR
BRUISES.

****

PAGE 6

BORIC ACID, A WHITE POWDER, IS A
MILD ANTISEPTIC AND CAN BE USED
AS AN EYEWASH.

PAGE 7

1. A PATRON HAS A SMALL SCRAPE ON THE LEG AS A RESULT OF SLIPPING ON THE SALON FLOOR. THE COSMETOLOGIST SHOULD -----.

A. USE BORIC ACID

B. APPLY MERCUROCHROME

C. WASH THE SCRAPE WITH GLYCERINE

****

PAGE 8

2. A FEW DROPS OF SHAMPOO FELL IN THE EYE OF A PATRON. THE COSMETOLOGIST SHOULD WASH THE AFFECTED AREA WITH -----.

A. WITCH HAZEL

B. ALCOHOL

C. IODINE

D. BORIC ACID

PAGE 9

3. ONE INGREDIENT IN CUTICLE OIL IS -----.

A. GLYCERINE

B. QUATS

C. MERCUROCHROME

D. BORIC ACID

****

PAGE 10

4. WITCH HAZEL IS A COMBINATION OF -----.

A. SULFURIC ACID AND WATER

B. PHENOL AND GLYCERINE

C. ALCOHOL AND WATER

D. BORIC ACID AND WATER

PAGE 11

	ANSWERS	PAGE REF.
1	B	5
2	D	6
3	A	3
4	C	4

CHEMICAL COMPOUNDS USED IN THE SALON

GLOSSARY

ALCOHOL

al co hol

A colorless liquid used to clean and disinfect.

Alcohol should be used to clean pierced ears every day.

ANTISEPTIC

an ti sep tic

A cleaner used to prevent the growth of germs or microbes.

Gail put antiseptic on Monte's cut.

ASTRINGENT

as trin gent

A liquid that, when placed on the skin, causes the skin to contract. It makes the skin tingle and feel taut, or tight.

An astringent has a cool and refreshing effect on the skin.

BORIC ACID

bo ric ac id

A white powder substance used as a mild antiseptic.

Boric acid is used as an eyewash.

CUTICLE

cu ti cle

Hardened skin, like that which accumulates at the base and sides of a fingernail.

The cuticles should be treated with oil.

CUTICLE OIL

cu ti cle oil

An oil used to soften the cuticle in a manicure.

Cuticle oil frequently contains glycerine.

DISINFECTANTS

dis in fect ants

A chemical that destroys bacteria or microbes.

QUATS are disinfectants used to kill bacteria.

238

EYEWASH

eye wash

A substance used to cleanse the eye.

A solution of boric acid can be used as an eyewash.

GLYCERINE

glyc er ine

An oily liquid applied to skin to soften it.

Glycerine is used in the manufacture of face cream.

INGREDIENT

in gre di ent

A part or component of a whole.

Flour, sugar, salt and butter are the ingredients used to make cookies.

MANICURE

man i cure

To trim, polish and care for the fingernails.

A rosy polish was applied during the manicure.

MERCUROCHROME

Mer cu ro chrome

An orangish liquid applied to the skin to clean and kill germs.

Mercurochrome was used on Abbie's scraped knee.

PHENOL

phe nol

A liquid compound which, when diluted, is used as a disinfectant.

A 50% solution of phenol is used to disinfect razors and shears.

QUATERNARY AMMONIUM COMPOUNDS (QUATS)

qua ter nar y am mo ni um com pounds

Compounds used as disinfectants. They have a short disinfecting time. They are odorless and colorless. Also known as QUATS.

Before using any quaternary ammonium compounds, read and follow the manufacturer's directions.

SANITIZE

san i tize

To make clean and destroy most bacteria.

Generally, the cosmetologist must sanitize all implements and equipment used in the salon.

TINCTURE OF IODINE

tinc ture of i o dine

A liquid applied to cuts to kill or stop the growth of microbes or germs.

Aaron scraped his knee, so Gail applied tincture of iodine.

WITCH HAZEL

witch ha zel

A combination of water and alcohol. It is used as an astringent.

Witch hazel is used to close the pores on the face or body.

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

CHEMISTRY OF COSMETICS

VOCABULARY:

ADVERSE

SIDE EFFECTS

ALLERGIC

IRRITATION

REACTION

AVOID

POISONOUS

ANALYZE

PAGE 3

VOCABULARY: (CONTIUNUED)

INGREDIENTS

FDA (FOOD & DRUG ADMINISTRATION)

ANTIDOTE

SKIN TONING LOTION

CITRIC ACID

RESIDUE

STIMULATE

SATU: ATE

MOISTURIZING CREME

****

PAGE 4

VOCABULARY: (CONTINUED)

FLAWLESS

STEARIC ACID

ROUGE

PAGE 5

COMMERCIAL COSMETIC SALES ARE A MULTI-BILLION-DOLLAR BUSINESS. AS MORE AND MORE MONEY IS BEING SPENT ON COSMETICS, MANY PEOPLE ARE FINDING THAT SOME COSMETICS CAUSE AN ADVERSE SIDE EFFECT. THE COSMETOLOGIST SHOULD BE AWARE OF THE POTENTIAL SIDE EFFECTS OF VARIOUS COSMETICS AND HOW TO DEAL WITH THESE PROBLEMS.

****

PAGE 6

BEFORE USING ANY COSMETIC, READ AND FOLLOW ALL DIRECTIONS EXACTLY. ALWAYS CHECK TO MAKE SURE YOUR PATRON IS NOT ALLERGIC TO A PRODUCT BEFORE USING IT. APPLY A SMALL AMOUNT ON THE INSIDE OF THE FOREARM OR BEHIND THE EAR. LEAVE IT ON FOR 24 HOURS. IF ANY REDNESS,ITCHING OR IRRITATION OCCURS, DO NOT USE IT ON THAT PATRON.

PAGE 7

IF A COSMETIC CAUSES ANY ADVERSE EFFECTS, STOP USING IT. IF THE CONDITION DOES NOT CLEAR UP OR IS UNCOMFORTABLE, BRING THE COSMETIC TO A DOCTOR ALONG WITH THE SPONGES AND POWDER PUFFS USED TO APPLY THE COSMETIC.

****

PAGE 8

THE DOCTOR WILL ANALYZE THE COSMETIC AND BE ABLE TO TELL EXACTLY WHICH INGREDIENT THE PATRON IS ALLERGIC TO, SO THE PATRON CAN AVOID THAT INGREDIENT.

PAGE 9

THE PRODUCT RESPONSIBLE FOR THE PROBLEM MAY BE A NEW PRODUCT, OR ONE USED SEVERAL TIMES BEFORE. THE FACT THAT THE PRODUCT HAS BEEN USED SEVERAL TIMES DOES NOT RULE OUT AN ALLERGIC REACTION. THE DEVELOPMENT OF AN ALLERGIC REACTION MAY OCCUR AT ANY TIME. ALSO, SOME MINOR CHANGES IN THE INGREDIENTS MAY HAVE OCCURED IN MANUFACTURING.

****

PAGE 10

DO NOT LET CHILDREN PLAY WITH COSMETICS. SOME INGREDIENTS ARE POISONOUS WHEN EATEN.

REPORT ANY REACTION TO THE MANUFACTURER OF THE PRODUCT, TO THE FDA (FOOD & DRUG ADMINISTRATION), AND TO THE STORE WHERE YOU PURCHASED THE COSMETIC.

PAGE 11

THE CHEMISTRY OF COSMETICS INVOLVES STUDYING THE COMPOSITION OF THE PRODUCTS USED TO CLEANSE AND BEAUTIFY YOUR PATRONS. INCLUDED ARE ALL THE ITEMS USED ON THE SKIN, HAIR AND NAILS.

****

PAGE 12

FEDERAL AND STATE LAWS REQUIRE MANUFACTURERS TO LIST THE INGREDIENTS OF EACH PRODUCT ON THE LABEL OR ON THE ENCLOSED LITERATURE. IF A PATRON IS ALLERGIC TO A PRODUCT, THE INGREDIENTS MUST BE KNOWN BY THE DOCTOR IN ORDER TO SECURE AN ANTIDOTE. (AN ANTIDOTE IS A MEDICINE WHICH COUNTERACTS THE EFFECT OF AN ALLERGIC REACTION.)

PAGE 13

THE FOLLOWING ARE LABELS TAKEN FROM 'STRIKE ME BEAUTIFUL' COSMETICS: SKIN TONING LOTION, VITA E CREME AND POWDER ROUGE. NOTE THE DIFFERENT PARTS OF THE LABEL: HOW TO USE THE COSMETIC, THE LIST OF INGREDIENTS AND THE WEIGHT OF THE COSMETIC. STUDY THE LABELS CAREFULLY.

****

PAGE 14
FIGURE 1

SAMPLE COSMETIC LABELS

SKIN TONING LOTION

Used by men and women to remove any soil or residue left on skin after cleansing. While improving skin tone it also closes pores and stimulates the skin. After a normal cleansing saturate a small piece of cotton with Skin Toning Lotion. Avoiding eyes, pat gently over face and throat.

INGREDIENTS: purified water, SD alcohol 40B, witch hazel, fragrance, sorbitol, glycerin, citric acid.

Net Wt. 8 oz. (226.8 gms)

Labels from STRIKE ME BEAUTIFUL cosmetics.

PAGE 15
FIGURE 2

SAMPLE COSMETIC LABELS

VITA E CREME

A great moisturizing creme that leaves your skin looking petal smooth. Perfect for any type of complexion. Apply gently with fingertips over entire face and throat. Use daily under makeup to maintain that flawless look.

INGREDIENTS: purified water, mineral oil, stearic acid, glyceryl stearate + PEG-100 stearate, sorbitol, wheat germ oil, laneth-5, choleth-24, vitamin E acetate, fragrance, methyl paraben, propyl paraben, 2-bromo-2-nitro-propane-1.3 diol.

Net Wt. 2 oz. (56.7 gms)

****

PAGE 16
FIGURE 3

SAMPLE COSMETIC LABEL

POWDER ROUGE (BLUSHER)

12

APPLY ON CHEEKBONE AND BLEND EVENLY.

INGREDIENTS: isopropyl palmitate, lanolin oil, mineral oil, petrolatum, talc, mica, titanium dioxide, ceresin, propyl-paraben, B.H.A. May contain D & C red 3, aluminum lake, D & C red 9, barium lake, D & C red 7, calcium lake, D & C red 12, barium lake, iron oxide.

.15 oz.

PAGE 17

1. IF A PATRON WAS ALLERGIC TO CITRIC ACID, WHICH OF THESE PRODUCTS SHOULD NOT BE USED?

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

****

PAGE 18

2. IF YOU WERE ALLERGIC TO PERFUME FRAGRANCE ADDED TO COSMETICS, WHICH OF THESE PRODUCTS COULD YOU USE? -----

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

PAGE 19

3. IF A PATRON WAS ALLERGIC TO STEARIC ACID, WHICH OF THESE PRODUCTS SHOULD NOT BE USED?

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

****

PAGE 20

4. WHICH OF THESE PRODUCTS HAS THE LARGEST NET WEIGHT? ---

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

PAGE 21

5. WHICH PRODUCT SHOULD BE APPLIED TO THE SKIN USING A PIECE OF COTTON? ---

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

****

PAGE 22

6. WHICH PRODUCT CONTAINS RED DYE AND COLOR NUMBER SEVEN? ---

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

PAGE 23

7. WHICH PRODUCT CLOSES PORES AND STIMULATES THE SKIN? ---

A. SKIN TONING LOTION

B. VITA E CREME

C. POWDER ROUGE

****

PAGE 24

	ANSWERS	PAGE REF.
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2	C	16
3	B	15
4	A	14
5	A	14
6	C	16
7	A	14

CHEMISTRY OF COSMETICS

GLOSSARY

ADVERSE

ad verse

Unfavorable; harmful.

An adverse effect of overeating is a stomach-ache.

ALLERGIC

al ler gic

Sensitivity to a specific substance.

Susan was not allergic to the hair coloring product.

ANALYZE

an a lyze

To separate (a thing, idea, etc) into its parts.

A chemist will analyze the product for the cosmetologist.

ANTIDOTE

an ti dote

A remedy to counteract
a poison.

The doctor gave her an
antidote.

AVOID

a void

To keep away from;
to keep from happening.

A cosmetologist should
avoid getting shampoo
in a patron's eye.

CITRIC ACID

cit ric ac id

An acid from fruits such
as lemons, oranges, etc.,
used in making flavorings,
fragrances, or dyes.

Citric acid is used in
Skin Toning Lotion.

FDA

(Food and Drug Administration)

A federal agency which regulates the production and sale of food, drugs, cosmetics, etc. in the United States.

The FDA requires the manufacturer to list the ingredients contained in the hair spray on the label or enclosed within the package.

FLAWLESS

flaw less

Without blemish, having no defects.

The makeup base gave her skin a flawless look.

INGREDIENT

in gre di ent

A part or component of a whole.

One ingredient used in the cookie was sugar.

IRRITATE

ir ri tate

To cause to become inflamed or sore.

A harsh chemical can <u>irritate</u> the skin or scalp.

MOISTURING CREAM

mois tur iz ing cream

Substance made to add, provide or restore wetness (or moisture) to the skin.

Dry skin requires daily use of <u>moisturizing cream</u>.

POISONOUS

poi son ous

Containing a substance which could cause illness or death when eaten or drunk.

Some mushrooms are <u>poisonous</u>.

REACTION

re ac tion

A mutual action of substances undergoing a chemical change; a response to a situation or stimulation.

The client had an allergic reaction to the product.

RESIDUE

res i due

The remainder; leftover; what is left after part is taken away.

Careful cleansing will remove any residue.

ROUGE

rouge

Any of various red or reddish cosmetics in powder, cream or liquid form for coloring cheeks.

Rouge is sometimes called blusher.

SATURATE

sat u rate

To cause to be thoroughly soaked; to wet.

The cotton ball was saturated with Toning Lotion.

SIDE EFFECT

side ef fect

Something other than the desired results. An unanticipated result; an unexpected result.

Any harmful side effect of a product should be reported to the FDA.

SKIN TONING LOTION

skin ton ing lo tion

An astringent lotion used to close the pores and stimulate the skin.

Skin toning lotion is an excellent way to finish removing makeup.

STEARIC ACID

stear ic ac id

Waxlike fatty acid. It is used in the making of soaps and cosmetics.

Vita E Creme contains <u>stearic acid</u>.

STIMULATE

stim u late

Increase action; activate surface muscles or nerve endings.

Toning lotions are used to <u>stimulate</u> the skin.

5

Hair Shaping

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

HAIR SHAPING - INSTRUMENTS

IMPLEMENTS

INSTRUMENTS

HAIR SHAPING

RAZOR

TANG

SHANK

BLADE SLOT

BLADE GUARD

PIVOT SCREW

PAGE 3

VOCABULARY (CONTINUED)

SCISSORS

MOBILE BLADE

STILL BLADE

IMMOBILE

TENSION SCREW

THINNING SHEARS

TAPER BLADE

CUTTING BLADE

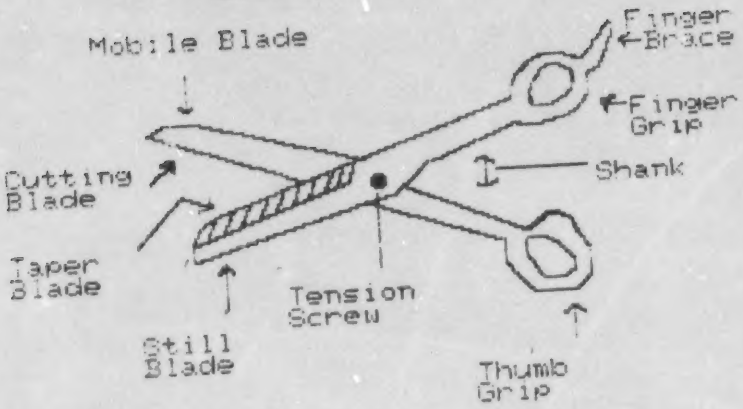
****

PAGE 4

BEFORE HAIRCUTTING BEGINS, THE COSMETOLOGIST MUST BE FAMILIAR WITH THE IMPLEMENTS AND/OR INSTRUMENTS USED IN SHAPING THE HAIR. THREE INSTRUMENTS MAY BE USED TO ACHIEVE THE LOOK YOU WANT IN THE HAIRCUT: THE RAZOR, SHEARS, AND THE THINNING SHEARS. THE COSMETOLOGIST MUST KNOW ALL THE PARTS TO THESE CUTTING INSTRUMENTS.

PAGE 5
FIGURE 1

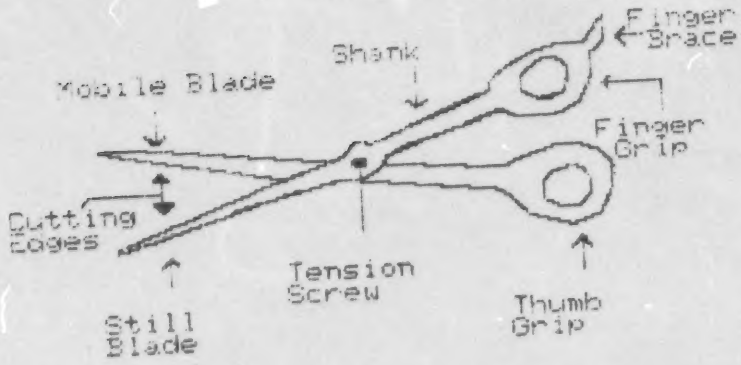
THINNING SHEARS



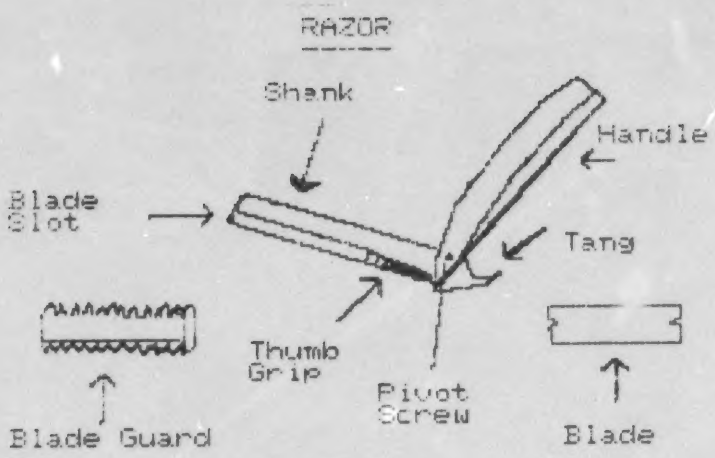
****

PAGE 6
FIGURE 2

SCISSORS OR SHEARS



PAGE 7
FIGURE 3



****

PAGE 8

1. WHAT PART OF THE SHEARS IS STILL OR IMMOBILE? ----

A. TOP OF SHEARS

B. BOTTOM OF SHEARS

C. TANG

D. THUMB

PA 9

2. WHAT PART OF THE SHEARS IS MOBILE? -----

A. BOTTOM OF SHEAR

B. THUMB

C. TOP OF SHEAR

D. FERRULE

****

PAGE 10

3. WHICH INSTRUMENT REQUIRES A BLADE GUARD? -----

A. SHEAR

B. RAZOR

C. THINNING SHEAR

D. CLIPPERS

PAGE 11

	ANSWERS	PAGE REF.
1	B	5
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HAIR SHAPING - INSTRUMENTS

FOOTNOTES

PAGE 5
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PAGE 6
IBID.

GLOSSARY

BLADE GUARD

blade guard

A protective covering for the razor blade to guard against an accident when the razor is not in use. The blade guard fits over the razor blade to prevent accidents; makes it easier to store when not in use and protects the sharpness of the blade.

The blade guard should be kept on the razor at all times when the razor is not in use.

BLADE SLOT

blade slot

The slot in which the razor blade is placed, the groove or narrow opening in which the razor blade is placed.

The razor blade fits snugly in the blade slot.

CUTTING BLADE

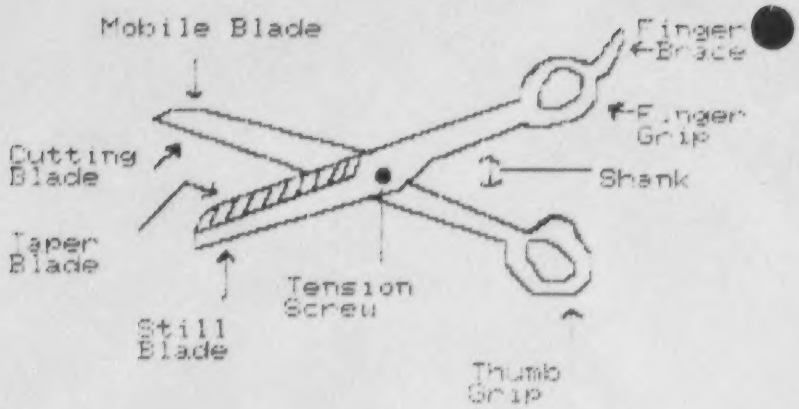
cut ting blade

The sharp edge of the instrument used to sever the hair.

The sharp edge of the razor blade used in cutting the hair.

The blade guard protects the cutting blade.

THINNING SHEARS



HAIR SHAPING

hair shap ing

The process of thinning, tapering and/or shortening hair.

Hair shaping is necessary to maintain an attractive hairstyle.

IMMOBILE

im mo bile

Motionless, not changing, not movable.

When a broken leg is placed in a cast, it is immobile.

IMPLEMENTS

im ple ments

Tools; any article or device used or needed in a given activity.

Two hair shaping implements are the razor and scissors.

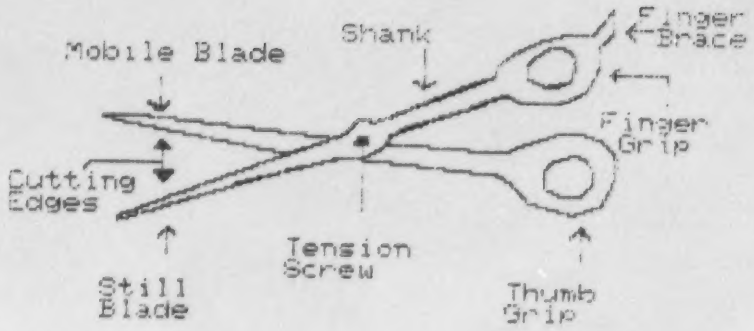
INSTRUMENTS

in stru ments

Tools; things by means of which something is done.

A cosmetologist should take care of the instruments used in the trade.

SCISSORS OR SHEARS



MOBILE BLADE

mo bile blade

The moving blade or cutting edge on a pair of shears or scissors.

The tension screw fastens the mobile blade and still blade.

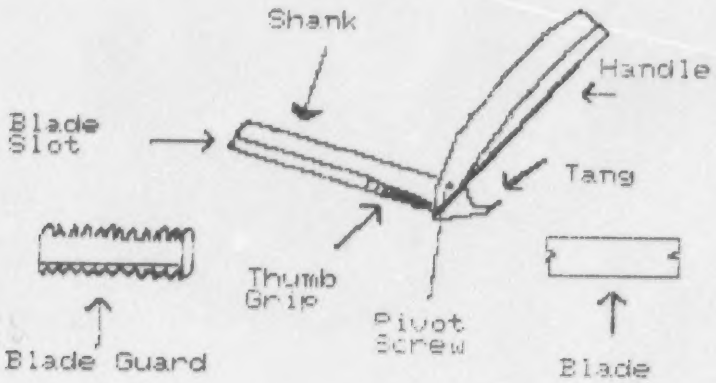
PIVOT SCREW

piv ot screw

A screw or bolt around which something turns or depends; a center point.

The pivot screw on a razor holds the shank and the handle together.

RAZOR



RAZOR

ra zor

A sharp-edged cutting instrument for shaving off or cutting hair.

Razors are frequently made of stainless steel.

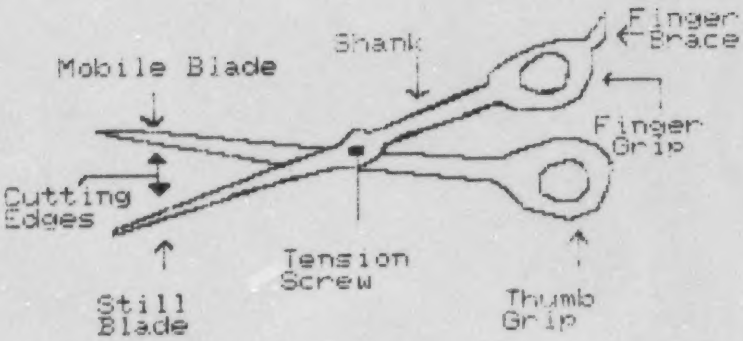
SCISSORS

scis sors

A cutting instrument with two blades, each having a looped handle, which are pivoted together in the middle so that they work against each other as the instrument is closed on the material to be cut.

Scissors must be kept sharp and in good working condition.

SCISSORS OR SHEARS



SHANK

shank

The part of a tool or instrument between the handle and the working part.

The shank is between the ferrules and the tension screw.

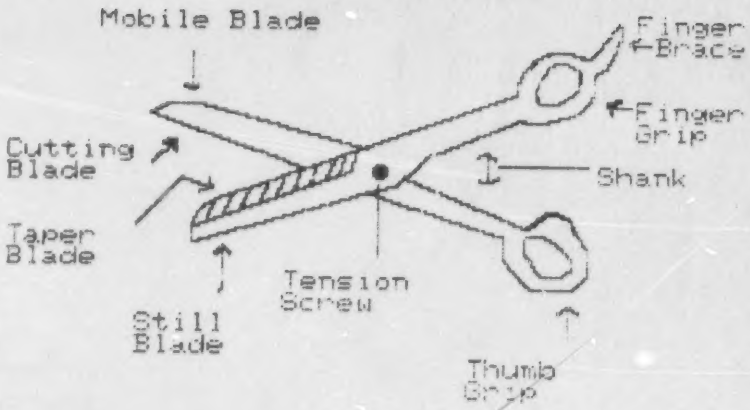
STILL BLADE

still blade

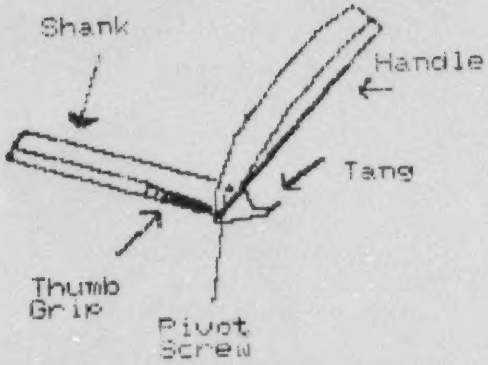
The immobile or non-moving blade on a pair of thinning shears.

The still blade maintains its position as the mobile blade moves down to cut the hair.

THINNING SHEARS



RAZOR



TANG

tang

Like a finger brace, only used on razor; resting place for ring finger when using a razor; finger rest

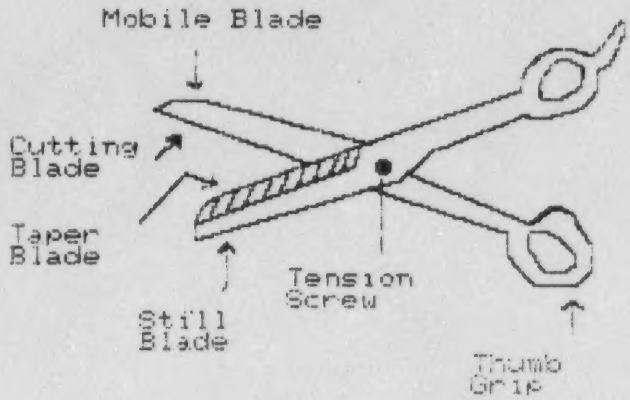
A tang is found on the razor.

TAPER BLADE

ta per blade

Cutting action takes place in this section of the thinning shears.

The taper blade can be found on the thinning shears.



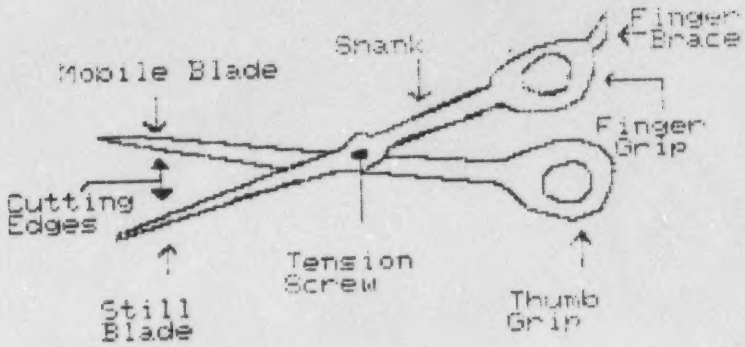
SCISSORS OR SHEARS

TENSION SCREW

ten sion screw

A device for regulating tension or tautness, a bolt or screw that can be adjusted to change the tension on a pair of scissors.

The tension screw on the scissors needs adjusting.



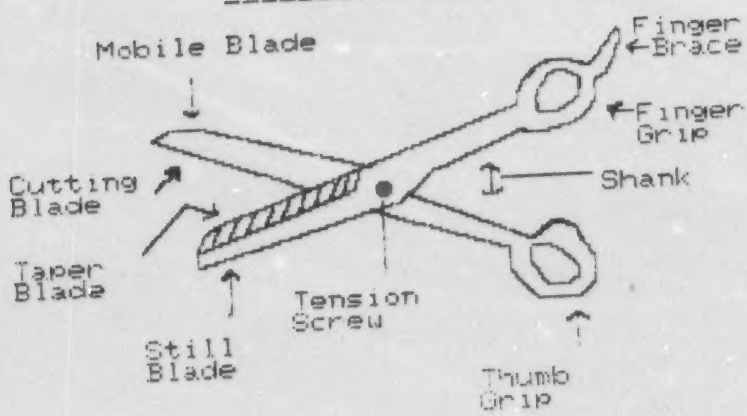
THINNING SHEARS

thin ning shears

Narrow tapering shears used to decrease the thickness of the hair where the hair is too bulky or too heavy.

Phenol is mixed with water and used to sanitize thinning shears.

THINNING SHEARS



PAGE 1

SECTIONING

VOCABULARY:

HAIR SECTIONING

DISTRIBUTION

ENABLE

ACTUAL

CROWN SECTION

NAPE SECTION

TOP SECTION

SIDE SECTION

****

PAGE 2

VOCABULARY: (CONTINUED)

SUBSECTION

TEXTURE

PAGE 3

HAIR SECTIONING REQUIRES THE DISTRIBUTION OF THE HAIR INTO SECTIONS ON THE HEAD. THIS IS CALLED HAIRCUT SECTIONING, AND WILL ENABLE THE COSMETOLOGIST TO DETERMINE THE ACTUAL HEAD SIZE OF THE CLIENT, AND MAKE CUTTING EASIER.

****

PAGE 4

THE HAIR IS DIVIDED INTO FIVE (5) SECTIONS:

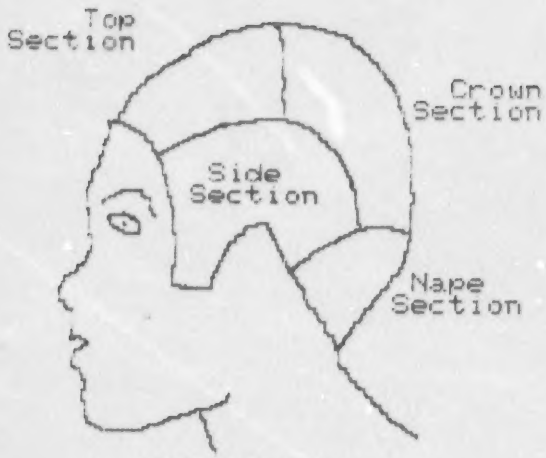
A. ONE (1) TOP SECTION,

B. TWO (2) SIDE SECTIONS,

C. ONE (1) CROWN SECTION, AND

D. ONE (1) NAPE SECTION.

PAGE 5
FIGURE 1



SECTIONING

****

PAGE 6

HAIRCUTTING USUALLY BEGINS IN THE NAPE AREA WITH A SUBSECTION TAKEN FROM THAT AREA. THE TEXTURE OF THE HAIR PLAYS A MAJOR ROLE IN THE AMOUNT OF HAIR TO BE CUT IN THE SUBSECTION. THE THICKER THE HAIR, THE SMALLER THE SUBSECTIONS. THE FINER THE HAIR, THE LARGER THE SUBSECTIONS.

PAGE 7

1. HAIR SHAPING REQUIRES THE DISTRIBUTION OF THE HAIR BEFORE CUTTING. THIS IS CALLED -----.

   A. SHAPING

   B. SECTIONING

   C. PERMING

   D. CUTTING

****

PAGE 8

2. INTO HOW MANY SECTIONS IS THE HAIR DIVIDED FOR CUTTING? -----

   A. 3

   B. 6

   C. 5

   D. 4

PAGE 9

3. HAIR SHAPING USUALLY BEGINS IN THE NAPE AREA. -----

A. TRUE

B. FALSE

****

PAGE 10

4. HAIR TEXTURE PLAYS A MAJOR ROLE IN THE AMOUNT OF HAIR TO BE CUT WITHIN A SUBSECTION. ---

A. TRUE

B. FALSE

PAGE 11

	ANSWERS	PAGE REF.
1	B	3
2	C	4
3	A	6
4	A	6

SECTIONING

GLOSSARY

ACTUAL

ac tu al

The fact, not false; real or true.

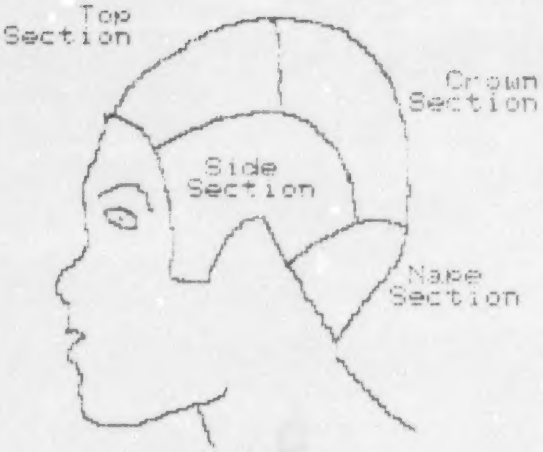
Hair sectioning and close scalp examination will enable the cosmetologist to determine the actual head size of the client.

CROWN SECTION

crown sec tion

A part of the skull or head. In hairstyling the hair is divided into five sections. The crown section is the back top section. (refer to the picture)

Gail's hairstyle required small rollers to set the crown section.



SECTIONING

DISTRIBUTION

dis tri bu tion

To divide among several or many; to distribute into sections.

Hair sectioning requires the distribution of the hair into sections on the head.

ENABLE

en able

To make possible; to make one able to do something.

Study and practice will enable you to pass the cosmetology exam.

HAIR SECTIONING

hair sec tion ing

Distributing the hair into sections of the head; dividing the hair into distinct portions or segments.

Hair sectioning enables the cosmetologist to determine the head size of the client.

NAPE SECTION

nape sec tion

Section directly above the back of the neck. (refer to the picture)

Linda began my haircut at the nape section.

SIDE SECTION

side sec tion

Section on the sides of the head above the ear. (refer to picture)

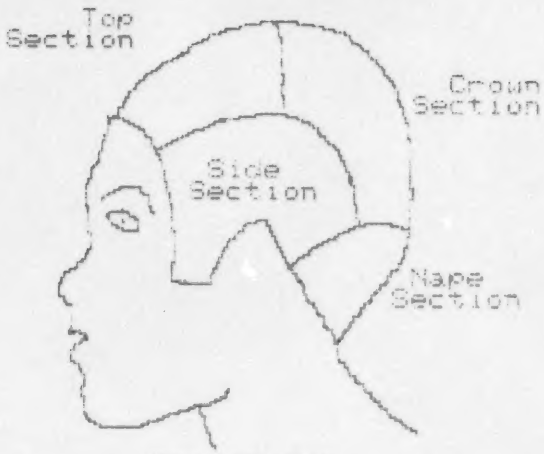
There are two side sections, one on each side of the head.

SUBSECTION

sub sec tion

Part of a larger section; divided into smaller amounts.

Inside each section there can be many subsections.



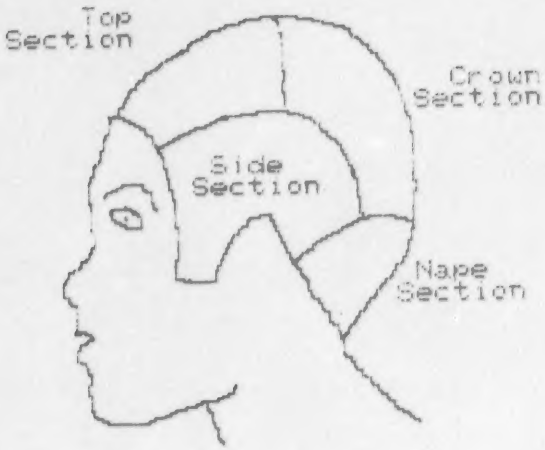
SECTIONING

TOP SECTION

top sec tion

Section on the top front of the head. (refer to picture)

The top section of Raymond's hair was very thin.



TEXTURE

tex ture

The feel of the individual hair strand and the size of the strand classified as course, medium or fine.

The texture of hair determines how the hair should be subsectioned.

ELEVATION - VOCABULARY

HAIR SHAPING

ELEVATION

MAXIMUM

BULK

EFFECTIVE

LAYERED

ANGLE

PARALLEL

TEXTURE

****

HAIR SHAPING REQUIRES THE UNDERSTANDING OF ELEVATION. THIS REFERS TO HOW HIGH OR HOW LOW YOU HOLD A STRAND OF HAIR IN RELATION TO WHERE IT GROWS FROM THE SCALP.

THERE ARE THREE (3) ELEVATIONS THE COSMETOLOGIST WILL NEED TO KNOW. THEY ARE CALLED LOW, HIGH AND MEDIUM ELEVATIONS.

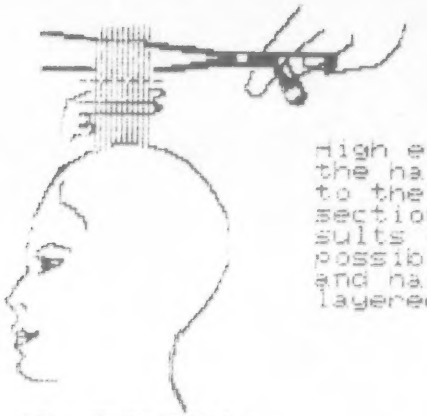
PAGE 3
FIGURE 1

Low elevation means the hair is not lifted away from the scalp. This produces maximum bulk at the ends of the hair and is most effective when the hair is fine and thin, and the style requires hair all the same length.

LOW ELEVATION

****

PAGE 4
FIGURE 2



High elevation means the hair is lifted to the top of its section. This results in the highest possible elevation, and hair will be layered.

HIGH ELEVATION

PAGE 5

MEDIUM ELEVATION IS LIFTED

STRAIGHT OUT FROM WHERE IT GROWS AND THE ANGLE OF THE FINGERS REMAINS PARALLEL TO THE HEAD. THIS GIVES YOU A PERFECT WIDTH OF LAYERED ENDS AND CAN BE USED ON ALL TEXTURES OF HAIR.

****

PAGE 6

1. ELEVATION IN HAIR SHAPING MEANS -----.

   A. HEIGHT OF CLIENT

   B. LAYER

   C. HOW HIGH OR LOW YOU HOLD A STRAND OF HAIR

PAGE 7

2. LOW ELEVATION MEANS -----.

A. HAIR THAT IS LIFTED 3 FINGERS FROM SCALP

B. HAIR THAT IS NOT LIFTED AWAY FROM SCALP

C. HAIR THAT IS PARALLEL TO PARTING

D. HAIR THAT IS LIFTED OUT ON AN ANGLE

****

PAGE 8

3. ----- ELEVATION CAN BE USED ON ALL TYPES OF HAIR.

A. ANGLE

B. HIGH

C. LOW

D. MEDIUM

PAGE 9

	ANSWERS	PAGE REF.
1	C	2
2	B	3
3	D	5

ELEVATION

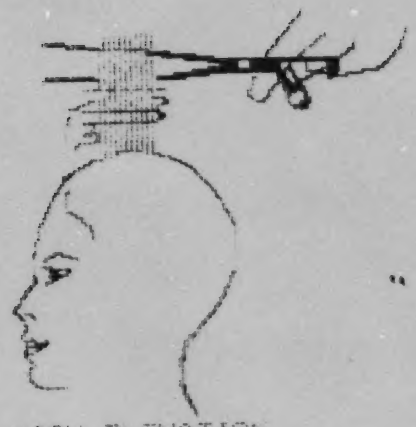
GLOSSARY

ANGLE

an gle

The figure formed by two lines. In hair shaping hair elevation is the angle of the hair off the scalp.

High elevation styles.



HIGH ELEVATION

Low elevation styles.

LOW ELEVATION

To tease the hair, hold the hair at a 90° angle and comb the hair toward the scalp.

BULK

bulk

Mass, volume, a very large amount; the size or amount of hair, fullness of hair.

A cosmetologist may purchase shampoo in bulk quantities.

EFFECTIVE

ef fec tive

Producing a desired result.

The cosmetologist must practice several hours to master effective hairstyling techniques.

ELEVATION

el e va tion

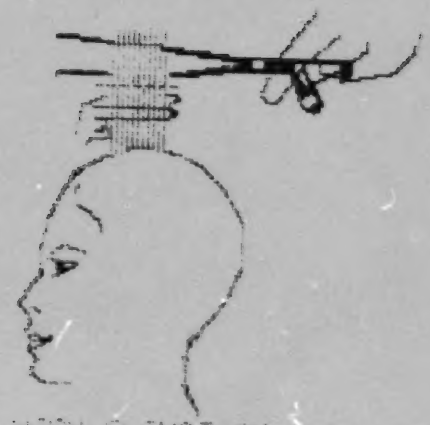
The height to which something is raised above another surface.

Hair elevation refers to the height the hair is raised above the scalp.

High elevation hairstyles - the hair is teased or set to achieve maximum elevation.

Low elevation hairstyles - the hair remains close to the scalp.

Elevation refers to how high or how low a cosmetologist holds a strand of hair in relation to where it grows from the scalp.



HIGH ELEVATION

LOW ELEVATION

HAIR SHAPING

hair shap ing

The process of thinning, tapering and/or shortening hair.

Hair shaping is necessary to maintain an attractive hairstyle.

LAYERED

lay ered

Tapering and thinning the hair by dividing into many thin layers.

A layered hairstyle is not recommended for very fine hair.

MAXIMUM

max i mum

The greatest quantity or value, the largest amount.

A high elevation hairstyle gives the hair maximum height.

PARALLEL

par al lel

Lines that are exactly
the same distance apart.
They will never touch.

Low elevation hairstyles
require the hair to lay
or remain parallel to the
scalp.

TEXTURE

tex ture

The feel of the individual
hair strand and the size
of the strand classified
as coarse, medium or fine.

The texture of the client's
hair should be considered
when choosing a hairstyle.

6

Hairstyling

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

HAIRSTYLING - FACIAL SHAPES

VOCABULARY:

HAIRSTYLING

EFFECTS

CREATE

DESIGN PRINCIPLES

INDIVIDUAL STATURE

HAIR GROWTH PATTERN

PROTRUSIONS

OVAL FACIAL SHAPE

PAGE 3

VOCABULARY: (CONTINUED)

PEAR FACIAL SHAPE

HEART FACIAL SHAPE

OBLONG FACIAL SHAPE

DIAMOND FACIAL SHAPE

****

PAGE 4

COSMETOLOGISTS MUST KEEP UP WITH EVER-CHANGING TRENDS IN FASHION AND HAIRSTYLING IF THEY ARE TO CREATE THE EFFECTS THEIR CLIENTS DEMAND. BEFORE DESIGNING A HAIR-STYLE, THE HAIRDRESSER MUST CON-SIDER SOME DESIGN PRINCIPLES. THEY ARE: INDIVIDUAL STATURE, FACIAL SHAPE, TEXTURE, DENSITY, AND HAIR GROWTH PATTERN.

PAGE 5

INDIVIDUAL STATURE IS THE SIZE AND SHAPE OF A PERSON. IS THE PERSON HEAVY OR PETITE? DOES THIS PERSON NEED A LARGER, MORE FULL HAIR-STYLE, OR DOES THIS PERSON NEED A SMALL, CLOSE-TO-THE-HEAD HAIR-STYLE?

****

PAGE 6

FACIAL SHAPE IS THE SIZE OR SHAPE OF THE FACIAL BONES AND THEIR PRO-TRUSIONS. COSMETOLOGISTS SHOULD RECOGNIZE THE SEVEN FACIAL SHAPES AND THEIR CHARACTERISTICS. THESE SHAPES ARE: OVAL, SQUARE, ROUND, PEAR, HEART, OBLONG AND DIAMOND.

PAGE 7
FIGURE 1

OVAL FACIAL TYPE

The oval type is generally accepted as the perfect face. The contour and proportions of the oval face form the basis for modifying all other facial shapes.

Facial Contour: The oval face is about one and a half times longer than its width across the brow; the forehead is sightly wider than the chin.

Any style can be worn. There are no features to minimize.

****

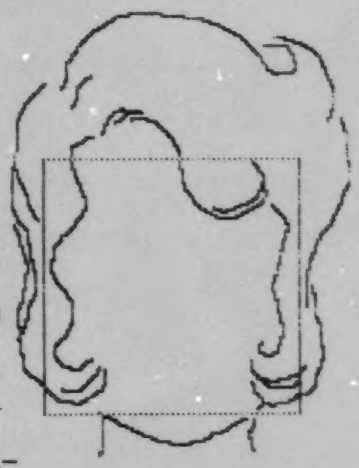
PAGE 8
FIGURE 2

SQUARE FACIAL SHAPE

Facial Contour: Straight hairline and square jawline.

Aim: To create the the illusion of length and offset the squareness of the features.

The most flattering hairstyle should lift off the forehead and come forward at the sides and jaw, to create the illusion of narrowness and softness in the face.



PAGE 9
FIGURE 3

ROUND FACIAL SHAPE

Facial contour:
Round hairline and round chinline.

Aim: To create the the illusion of length to the face.

To make a round face look narrower arrange the hair high on top of the head and smooth flat over the ears. This style will help minimize the roundness of the face.

****

PAGE 10
FIGURE 4

PEAR-SHAPE FACIAL SHAPE

Facial Contour:
Narrow forehead, wide jawline and chinline.

Aim: To create the illusion of width in the forehead.

Partially cover the forehead with a fringe of waved hair. The hair should be worn with a semi-wave or semi-curl effect over the lower jawline. This arrangement will add apparent width to the forehead.

PAGE 11
FIGURE 5

HEART-SHAPE FACIAL SHAPE

Facial Contour: Wide forehead and narrow chinline.

Aim: To decrease the width of the forehead and increase the width in the lower part of the face.

To reduce the width of the forehead, a hairstyle with a center part with bangs rolled up or a style slanted to one side is recommended. Add width and softness at the jawline.

****

PAGE 12
FIGURE 6

OBLONG FACIAL SHAPE

Facial Contour: Long, narrow face with hollow cheeks.

Aim: To make the face appear shorter and wider.

The hair should be styled fairly close to the top of the head with a fringe of curls or bangs, combined with fullness at the sides. The length of the face will appear to be reduced.

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PAGE 13
FIGURE 7

DIAMOND FACIAL TYPE

Facial Contour: Narrow forehead, extreme width through the cheek-bones, and narrow chin.

Aim: To reduce the width across the cheekbone line.

Increasing the fullness across the forehead and at the jawline, while keeping the hair close to the head at the cheekbone line will help to create the illusion of ovalness to the face.

****

PAGE 14

1. BEFORE DESIGNING A HAIRSTYLE, SOME DESIGN PRINCIPLES TO CONSIDER ARE -----.

   A. SHAMPOO AND CONDITIONER

   B. TEXTURE AND DENSITY OF HAIR, AND INDIVIDUAL STATURE

   C. FACIAL SHAPES AND HAIR GROWTH

   D. BOTH B AND C

PAGE 15

2. HOW MANY FACIAL SHAPES DO WE RECOGNIZE IN HAIRSTYLING? ---

A. THREE

B. FOUR

C. SIX

D. SEVEN

****

PAGE 16

3. INDIVIDUAL STATURE OF A PERSON REFERS TO THE -----.

A. HAIR LENGTH

B. SIZE AND SHAPE OF A PERSON

C. HAIR GROWTH

D. FACIAL SHAPES

PAGE 17

	ANSWERS	PAGE REF.
1	D	4
2	D	6
3	B	5

HAIRSTYLING - FACIAL SHAPES

FOOTNOTES

PAGE 7
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IBID.

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IBID.,P.116.

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IBID.,P.116.

GLOSSARY

CREATE

cre ate

Make; originate; to design.

Some cosmetologists like to create new styles.

DESIGN PRINCIPLES

de sign prin ci ples

General guide or outline.

Hair design principles are: individual stature, facial shape, texture, density, and hair growth pattern.

EFFECT

ef fect

A result; the ability to bring about results.

Cosmetologists must keep up with ever changing trends in fashion and hairstyling if they are to create the effect a client demands.

HAIR GROWTH PATTERN

hair growth pat tern

The design or way the hair grows on the scalp. Example: a cowlick is a lock of hair that grows in a different direction from the rest of the hair and is difficult to make lie flat. A cowlick may be part of a person's hair growth pattern.

Before designing a hairstyle, the cosmetologist must consider the patron's hair growth pattern.

HAIRSTYLING

hair styl ing

The art of arranging the hair into various becoming shapes or styles. The contour of the face, shape of the head, and the current season's styles must all be considered in this phase of cosmetology.

The cosmetologist must study various hairstyling techniques.

INDIVIDUAL STATURE

in di vid u al stat ure

The height, size and shape of a person.

Before designing a hairstyle, the cosmetologist must consider the patron's individual stature.

OBLONG FACIAL SHAPE

ob long fa cial shape

The shape of the face is long and narrow.

A person with an oblong facial shape should not wear long straight hair.

OVAL FACIAL SHAPE

oval fa cial shape

A perfectly shaped face. An oval is similiar to the shape of an egg.

A patron with an oval facial shape may easily wear a number of hair-styles.

PEAR FACIAL SHAPE

pear fa cial shape

The shape of the face is narrow across the forehead with a wide jaw.

A client with a pear facial shape should avoid a hairstyle that will add fullness to the jawline.

PROTRUSION

pro tru sion

Something that sticks out or juts out.

Facial shape is the size or shape of the facial bones and their protrusions.

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PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

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****

PAGE 2

HAIRSTYLING TECHNIQUES

VOCABULARY:

HAIRSTYLING

TECHNIQUE

FINGER WAVE

PIN CURL

ROLLER SET

COMBINATION

THERMAL SET

MARCEL IRON

PAGE 3

THERE ARE TWO METHODS OF STYLING HAIR:

1. SETTING THE HAIR WHEN IT IS WET, DRYING THE HAIR, THEN STYLING.

2. THE OTHER METHOD INVOLVES BLOW DRYING THE HAIR, THEN STYLING WITH ELECTRIC CURLERS OR A HOT COMB.

****

PAGE 4

THE METHOD OF SETTING THE HAIR WHEN WET INVOLVES ONE OF THE FOLLOWING TECHNIQUES;

1. FINGER WAVING
2. PIN CURLING,
3. ROLLER SETTING, OR
4. A COMBINATION OF THESE.

PAGE 5

THE METHOD OF STYLING THE HAIR AFTER IT IS DRY IS CALLED THERMAL STYLING. THIS INVOLVES STYLING THE HAIR BY MEANS OF HEAT WITH ELECTRICAL EQUIPMENT. THIS CAN BE DONE BY CURLING IRONS, MARCEL IRONS OR HOT ROLLERS.

****

PAGE 6

1. A TECHNIQUE USED TO SET WET HAIR IS -----.

   A. PIN CURLING

   B. ROLLERS

   C. FINGER WAVING

   D. ALL OF THE ABOVE

PAGE 7

2. THE METHOD OF STYLING THE HAIR AFTER IT IS DRY IS CALLED ---.

A. LACING

B. THERMAL CURLING

C. FINGER CURLING

D. PROCESSING

****

PAGE 8

3. THERMAL MEANS -----.

A. DRY

B. COLD

C. HEAT

D. WET

PAGE 9

	ANSWERS	PAGE REF.
1	D	4
2	B	5
3	C	5

GLOSSARY

COMBINATION

com bi na tion

The result of joining together; intermixing; uniting.

Cosmetologists frequently use a combination of techniques to produce a desired style.

FINGER WAVE

fin ger wave

A wave which is formed in wet hair by means of fingers and comb.

A finger wave is done by making waves with fingers and a comb.

HAIRSTYLING

hair styl ing

The art of arranging the hair into various becoming shapes or styles. The contour of the face, shape of the head, and the current seasons styles must all be considered in this phase of cosmetology.

The fashion show represented the latest designs in clothing and hairstyling.

MARCEL IRON

mar cel i ron

Electric iron used to put a series of even waves in the hair.

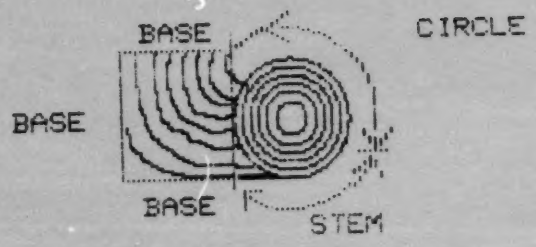
The marcel iron is used for one type of thermal styling.

PIN CURL

pin curl

Strands of hair organized into a flat ribbon form, and wound into a series of continuous untwisted circles within circles.

It is essential to learn how to make good pin curls.



ROLLER SET

roll er set

Hair is wound firmly around cylindrical hollow shapes of plastic, stiff net or the like.

Gail's long hair required a roller set.

TECHNIQUE

tech nique

Ability to apply methods or procedures to bring about a desired result.

The technique was explained by the instructor.

THERMAL SET

ther mal set

A hair-setting method which requires heat applied to dry hair by means of electrical equipment.

The marcel iron is used in one type of thermal set.

ROLLERS

VOCABULARY:

HAIR DESIGNING

EFFECT

TEXTURE

****

PAGE 2

IF ROLLERS ARE USED IN HAIR DESIGNING, THE VARIOUS SIZE ROLLERS AND THEIR EFFECT ON THE HAIR ARE IMPORTANT FACTORS IN THE FINISHED STYLE.

PAGE 3
FIGURE 1

ROLLER SIZES

The different size rollers are: dime, nickel and quarter size. The different lengths of hair will determine the size rollers selected for use.

****

PAGE 4

THE DIFFERENT LENGTHS AND TEXTURE OF THE HAIR WILL DETERMINE THE SIZE ROLLER SELECTED FOR THE HAIR-STYLE.

1. A DIME-SIZE ROLLER WILL REQUIRE HAIR LENGTH OF 2 3/4 INCHES.

2. A NICKEL-SIZE ROLLER WILL REQUIRE HAIR LENGTH OF 3 INCHES.

3. A QUARTER-SIZE ROLLER WILL REQUIRE HAIR LENGTH OF 3 1/2 INCHES.

PAGE 5

1. THE SIZE OF THE ROLLER IS AN IMPORTANT FACTOR IN THE FINISHED HAIRSTYLE. -----

A. TRUE

B. FALSE

****

PAGE 6

2. WHAT SHOULD THE COSMETOLOGIST CONSIDER WHEN SELECTING THE SIZE OF ROLLER? ---

A. HAIR LENGTH

B. HAIR COLOR

C. HAIR BODY

D. SHAMPOO

PAGE 7

3. THE DIME-SIZE ROLLER REQUIRES HAIR LENGTH OF ---.

A. 2 1/2 INCHES

B. 1 1/2 INCHES

C. 2 3/4 INCHES

D. 2 INCHES

****

PAGE 8

4. THE NICKEL-SIZE ROLLER REQUIRES HAIR LENGTH OF ---.

A. 2 INCHES

B. 3 INCHES

C. 4 INCHES

D. 3 1/2 INCHES

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PAGE 9

5. THE QUARTER SIZE ROLLER REQUIRES HAIR LENGTH OF ---.

A. 2 INCHES

B. 3 1/2 INCHES

C. 3 INCHES

D. 4 INCHES

****

PAGE 10

	ANSWERS	PAGE REF.
1	A	2
2	A	3
3	C	4
4	B	4
5	B	4

ROLLERS

GLOSSARY

EFFECT

ef fect

A result; the ability to bring about results.

The effect of a good hair set is a lasting style.

HAIR DESIGNING

hair de sign ing

The act or process of cutting, styling or arranging hair in a creative, attractive style.

Twice a year Kaysers sponsor a hair show presenting experts in hair designing.

TEXTURE

tex ture

The feel of the individual hair strand and the size of the strand classified as course, medium or fine.

The texture of the hair must be considered when choosing the proper size roller.

PAGE 1

ROLLER-BASE

VOCABULARY

ROLLER SETTING

LIFT

VOLUME

OFF-BASE ROLLER

HALF-BASE ROLLER

ON BASE ROLLER

****

PAGE 2

WHEN ROLLER SETTING, THE SIZE OF THE ROLLER DETERMINES THE SIZE OF THE BASE TO BE USED IN ROLLER STYLING.

THE SMALLER THE ROLLER, THE SMALLER THE SECTION OF HAIR TO BE ROLLED. THIS GIVES THE HAIRSTYLE MORE CURL.

PAGE 3

THE LARGER THE ROLLER, THE LARGER THE SECTION OF HAIR TO BE ROLLED. THIS GIVES THE STYLE LESS CURL AND NOT MUCH LIFT. THIS LIFT IS ALSO CALLED VOLUME, AND IS DETERMINED BY THE WAY THE COSMETOLOGIST PLACES THE HAIR ON THE BASE. THERE ARE THREE BASES IN ROLLER STYLING:

1. OFF-BASE ROLLER,
2. HALF-BASE ROLLER, AND
3. ON-BASE ROLLER.

****

PAGE 4

AN OFF-BASE ROLLER GIVES A SLIGHT AMOUNT OF FULLNESS. IT SHOULD BE USED WHENEVER THE STYLE REQUIRES A FLAT, CLOSE-TO-THE-HEAD LOOK.

A HALF-BASE ROLLER GIVES A MODERATE AMOUNT OF FULLNESS AND SHOULD BE USED WHEN THE STYLE REQUIRES A LITTLE LIFT OR FULLNESS.

PAGE 5

THE ON-BASE ROLLER GIVES MAXIMUM

FULLNESS TO THE HAIR AND SHOULD BE USED WHERE YOU WANT THE FULLEST PART OF THE HAIRSTYLE.

****

PAGE 6

1. HOW MANY BASES DOES THE COSMETOLOGIST NEED TO KNOW WHEN ROLLER STYLING? ---

   A. TWO

   B. THREE

   C. FOUR

   D. ONE

PAGE 7

2. WHICH ROLLER BASE WOULD YOU CHOOSE FOR A SLIGHT AMOUNT OF FULLNESS? ---

A. ON-BASE

B. OFF-BASE

C. FULL-BASE

D. HALF-BASE

****

PAGE 8

3. WHICH ROLLER BASE WOULD YOU CHOOSE FOR A MODERATE AMOUNT OF FULLNESS? ---

A. FULL-BASE

B. ON-BASE

C. HALF-BASE

D. OFF-BASE

PAGE 9

4. WHICH ROLLER BASE GIVES THE MAXIMUM FULLNESS TO A HAIR STYLE? ---

A. FULL-BASE

B. OFF-BASE

C. HALF-BASE

D. ON-BASE

****

PAGE 10

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	ANSWERS	PAGE REF.
1	B	3
2	B	4
3	C	4
4	D	5

ROLLER BASE

GLOSSARY

HALF-BASE ROLLER

half-base roll er

Gives a moderate amount of fullness.

Select a half-base roller set when you want a hairstyle with medium fullness.

LIFT

lift

To move or bring upward. (also called volume)

Hairstyles with some lift are usually more flattering to the client.

OFF-BASE ROLLER

off - base roll er

Gives slight fulness.

An off-base roller set is used for close-to-the-head styles.

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ON-BASE ROLLER

on - base roll er

Gives maximum fullness.

The high-crown effect
was achieved by using an
on-base roller set.

ROLLER SET

roll er set

Hair is moistened with
water or setting lotion
and wound around rollers.
Rollers are, in effect, molds
around which curls are
formed to create added
lift or volume.

A roller set can be used
to create a straight-
line design that has
height and stability.

VOLUME

vol ume

A mass or quantity,
especially a large
quantity.
(also refer to lift)

The volume
is the amount of
fullness the style
contains.

331

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PIN CURLS

VOCABULARY:

PIN CURL

SCULPTURE CURL

MASTER

BASE

STATIONARY

STEM

MOBILITY

CURL

PAGE 3

VOCABULARY (CONTINUED)

CIRCLE

CLOCKWISE

WOUND

COUNTER-CLOCKWISE

****

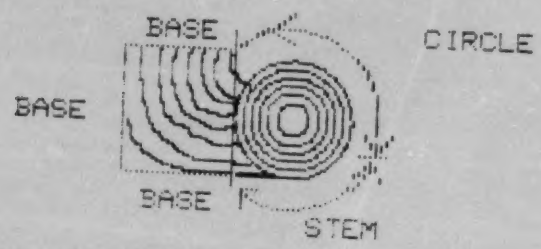
PAGE 4

PIN CURLS OR SCULPTURE CURLS ARE IMPORTANT HAIRSTYLING TECHNIQUES FOR THE COSMETOLOGIST TO MASTER. PIN CURLS ARE BEST SUITED FOR NATURALLY OR PERMANENTLY WAVED HAIR. PIN CURLS HAVE THREE PRINCIPAL PARTS:

1. THE BASE,
2. THE STEM, AND
3. THE CURL, OR CIRCLE.

PAGE 5
FIGURE 1

The three parts of the pin curl are: base, stem, and curl or circle.

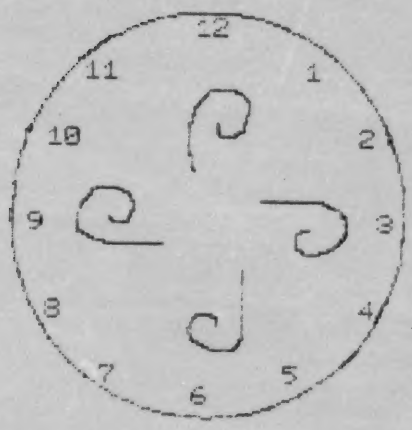


The base of the pin curl is attached to the scalp and is stationary. The stem gives the curl direction, action, and mobility. The curl or circle determines the strength and the width of the wave.

****

PAGE 6
FIGURE 2

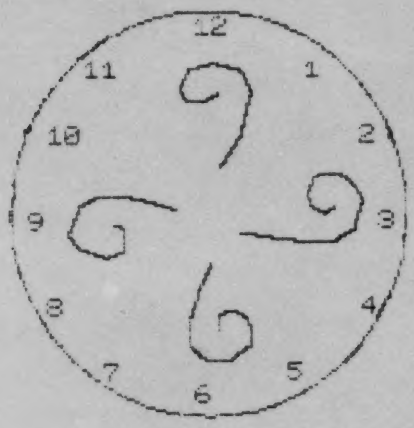
CLOCK-WISE



Pin curls are wound in two directions. Pin curls that wind the hair in the same direction as the movement of the hands of a clock are called clock-wise curls.

PAGE 7
FIGURE 3

COUNTER-CLOCK WISE



Pin curls that wind the hair in the opposite direction to the movement of the hands of a clock are called counter-clock-wise curls.

****

PAGE 8

1. THE THREE PARTS OF A PIN CURL

   ARE THE -----.

   A. FRONT, BACK AND MIDDLE

   B. BASE, STEM AND CURL

   C. ACTION, DIRECTION AND MOBILITY

   D. CIRCLE, CENTER AND BACK

PAGE 9

2. THE PART OF THE PINCURL THAT GIVES THE CURL ITS DIRECTION IS CALLED THE -----.

A. CIRCLE

B. CURL

C. STEM

D. BASE

****

PAGE 10

3. WHAT DETERMINES THE STRENGTH AND WIDTH OF THE CIRCLE? ---

A. BASE

B. CURL

C. STEM

D. PIVOT

PAGE 11

4. WHICH PART OF THE PIN CURL IS STATIONARY? ---

A. CURL

B. ACTION

C. BASE

D. STEM

****

PAGE 12

	ANSWERS	PAGE REF.
1	B	5
2	C	5
3	B	5
4	C	5

****

PIN CURLS

FOOTNOTES

PAGE 5
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PAGE 6
IBID.,P.90.

PAGE 7
IBID.

PIN CURLS

GLOSSARY

BASE

base

The lowest part,
or the bottom.

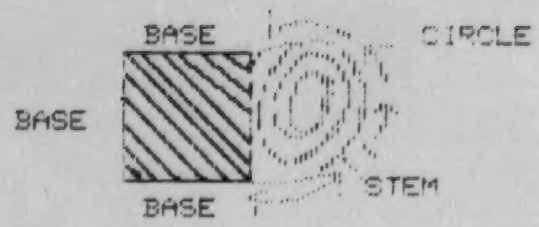
The base of the pin
curl is the part
closest to the scalp.

CIRCLE

cir cle

A ring-like or round
shape; a closed curve,
every point of which
is equally distant
from the center.

A ring is an example
of a circle.

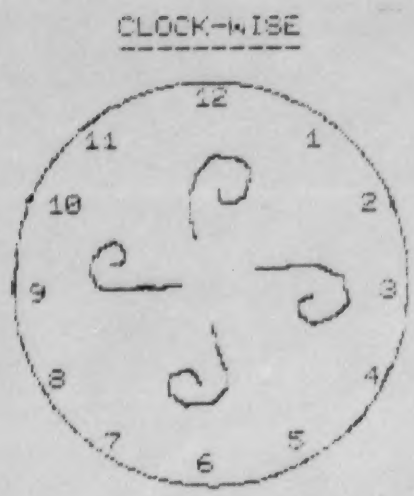


CLOCKWISE

clock wise

The direction in
which the hands of
a clock move.

The pin curl was wound
in a clockwise direction.



COUNTER-CLOCK WISE

COUNTER-CLOCKWISE

coun ter - clock wise

In a direction opposite to that in which the hands of a clock move.

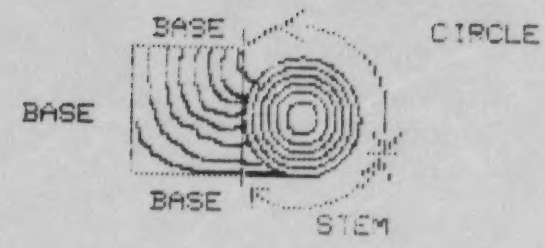
Karen will wind the pin curl in a counter-clockwise direction.

CURL

curl

A circle, or circles, within a circle.

The curl determines the strength and the width of the wave.



MASTER

mas ter

Display a great skill or knowledge of a craft or art.

You must spend many hours studying to master the trade.

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MOBILITY

mo bil i ty

Having the ability
to move or be moved;
adaptable.

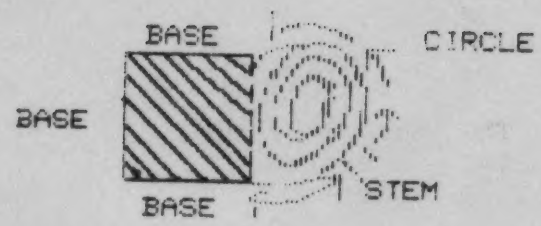
The automobile greatly
influenced our mobility.

PIN CURL

pin curl

A strand of hair organized
into a flat ribbon form,
and wound into a series
of continuous untwisted
circles within circles.

A pin curl consists of
three parts: base, stem and
curl or circle.



SCULPTURE CURL

sculp ture curl
(same as a pin curl;
refer to pin curl)

Sculpture curl is
another name for
a pin curl.

STATIONARY

sta tion ar y

Fixed in a certain place
or position; not changing.

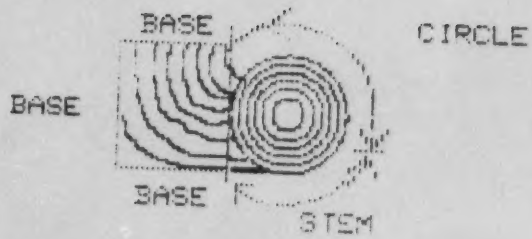
Small children are not
usually stationary for
very long.

STEM

stem

The main shaft.

The stem gives the
curl direction.



WOUND

wound

Wrapped, coiled, encircled.
Past tense of the word
wind.

She wound the hair over
an hour ago.

PAGE 1

PIN CURLS-BASE

VOCABULARY:

MOBILITY

PERFORMANCE

SUITED

CLOSED CENTER

OPEN CENTER

TEXTURE

RECOGNIZED

SQUARE BASE

****

PAGE 2

VOCABULARY: (CONTINUED)

TRIANGULAR BASE

CASCADE CURL

RECTANGULAR BASE

EXTENDED STEM

ARC BASE

UPSWEEP STYLE

PAGE 3

WHEN STYLING REQUIRES A PIN CURL SET, IT IS IMPORTANT TO UNDERSTAND WHICH TYPE OF PIN CURL PRODUCES THE MOBILITY AND PERFORMANCE BEST SUITED FOR THE DESIRED CURL. PIN CURLS MAY BE FORMED WITH A CLOSED-TYPE OR AN OPEN-TYPE CENTER, DEPENDING ON THE STYLE CHOSEN AND THE TEXTURE OF THE HAIR.

****

PAGE 4
FIGURE 1

Pin curls are formed with a closed center, or an open center.

CLOSED CENTER

Closed centers are recommended for a tighter, fuller look to the hair.

OPEN CENTER

Open centers are recommended for smooth, even construction of a wave.

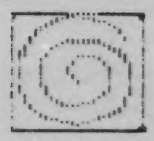
PAGE 5

PIN CURLS MAY BE SECTIONED AND CREATED IN VARIOUS WAYS FOR DIFFERENT STYLES. FOUR COMMON BASES ARE RECOGNIZED BY COSMETOLOGISTS TO FORM THE DESIRED CURL GROUPINGS. THEY ARE:

1. SQUARE BASE,
2. TRIANGULAR BASE,
3. RECTANGULAR BASE, AND
4. ARC BASE.

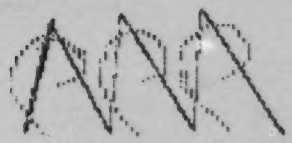
****

PAGE 6
FIGURE 2



SQUARE BASE

The square base pin curl is recommended for an even, smooth construction of a wave.



TRIANGULAR BASE

The triangular base pin curls are recommended for stand up or cascade curls.

PAGE 7
FIGURE 3

RECTANGULAR BASE

The rectangular base pin curl is recommended for hair that needs an extended stem for the style.

ARC BASE

The arc base pin curls are recommended for an upsweep style that needs an extended stem.

****

PAGE 8

1. PIN CURLS MAY HAVE EITHER AN OPEN CENTER OR A CLOSED CENTER.

   -----.

   A. TRUE

   B. FALSE

346

PAGE 9

2. A STYLE THAT REQUIRES A FULL, TIGHT CURL IS DESIRED. THE COSMETOLOGIST WOULD CHOOSE A PIN CURL WITH A(N) -----.

A. CLOSED CENTER

B. OPEN CENTER

C. FULL STEM

D. HALF STEM

****

PAGE 10

3. A PIN CURL STYLE THAT REQUIRES AN EVEN, SMOOTH CONSTRUCTION REQUIRES WHICH TYPE CENTER? ---

A. CLOSED

B. OPEN

C. TIGHT

D. CURLY

PAGE 11

4. HOW MANY BASES ARE THERE WHEN FORMING PIN CURLS? -----

A. FIVE

B. TWO

C. THREE

D. FOUR

****

PAGE 12

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PAGE 13

	ANSWERS	PAGE REF.
1	A	4
2	A	4
3	B	4
4	D	5

PIN CURLS - BASE

FOOTNOTES

PAGE 6
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PAGE 7
IBID.

GLOSSARY

ARC BASE

ARC BASE

arc base

Also known as half-moon or "C" shape base pin curls, may be carved out of a shaping at the sides.

The patron's upsweep style required arc base pin curls.

CASCADE CURL

cas cade curl

Also known as a "stand-up" curl, is wound from the hair ends to the scalp. The center opening is made larger, and the curl is pinned in a standing position.

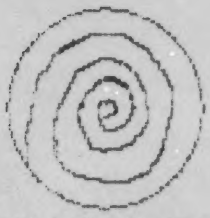
Cascade curls provide a great deal of lift to the hair.

CLOSED CENTER

closed cen ter

Pin curl formed with
a very small (or closed)
center opening.
(refer to picture)

A closed center is
recommended for fine
hair if a fluffy
comb-out is desired.



CLOSED CENTER

Closed centers are
recommended for a
tighter, fuller
look to the hair.

EXTENDED STEM

ex tend ed stem

Stem is longer (usually
1-1/2 times) than the
width of a curl.

Also called elongated
stem pin curl.

When extremely wide,
soft waves are desired,
use extended stem pin
curls.

MOBILITY

mo bil i ty

Ability to move. The mobility of a curl is determined by the stem.

Curl mobility is classified as no-stem, half-stem and full-stem.

OPEN CENTER

o pen cen ter

Pin curl formed with a very large (or open) center opening. (refer to picture)

Open center pin curls are used to obtain an even, smooth wave.

OPEN CENTER

Open centers are recommended for smooth, even construction of a wave.

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PERFORMANCE

per for mance

The manner in which something reacts.

The performance of the pin curl depends on how it is formed.

RECOGNIZED

rec og nized

To identify as previously known; to perceive clearly.

She recognized the style from the picture in the book.

RECTANGULAR BASE

rec tan gu lar base

Pin curl usually recommended at the side front hairline for smooth upsweep effect. (refer to picture)

To avoid splits in the comb-out, rectangular base pin curls must overlap.

RECTANGULAR BASE

The rectangular base pin curl is recommended for hair that needs an extended stem for the style.

SQUARE BASE

square base

Used for even construction, suitable for combing and brushing into curls or waves.
(refer to picture)

To avoid splits, square base pin curls should be staggered.

SQUARE BASE

The square base pin curl is recommended for an even, smooth construction of a wave.

SUITED

suit ed

To be appropriate; satisfactory; acceptable.

The hairstyle she chose was suited to her type of hair.

TEXTURE

tex ture

The feel of the individual hair strand and the size of the strand classified as course, medium or fine.

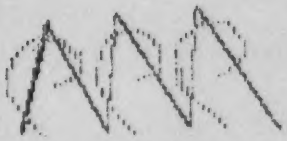
Hair texture should be considered when selecting a hairstyle.

TRIANGULAR BASE

tri an gu lar base

Used along the front or facial hairline to prevent breaks or splits. (refer to picture)

The triangular base allows a portion of the hair from each curl to overlap the next.



TRIANGULAR BASE

UPSWEEP STYLE

up sweep style

A hairdo produced by having the hair combed or brushed upward to the top of the head.

Elaine had an upsweep style done for the party.

PAGE 1

COMB-OUT

VOCABULARY:

CLIENT

FEATURES

COMB-OUT

BACK-COMBING

LACING

FRENCH LACING

BACK-BRUSHING

TEASING

****

PAGE 2

VOCABULARY: (CONTINUED)

INTERCHANGEABLY

SMOOTHING

ACCOMPLISH

TEXTURE

IMPLEMENT

PAGE 3

AFTER THE COSMETOLOGIST HAS DETERMINED A STYLE FOR THE CLIENT FROM ANALYZING HIS OR HER FEATURES AND HAIR, THE HAIR IS SET AND DRIED. THE COMB-OUT IS PROBABLY THE MOST IMPORTANT PART OF STYLING AND REQUIRES A BASIC KNOWLEDGE OF COMB-OUT TECHNIQUES.

****

PAGE 4

SOME TERMS USED IN THIS HAIRDRESSING SERVICE ARE CALLED: BACK-COMBING, LACING, SMOOTHING, BACK-BRUSHING AND TEASING.

PAGE 5

THESE TERMS ARE CLOSE IN MEANING AND VARIOUS HAIRDRESSERS USE THEM INTERCHANGEABLY. TERMS THAT ARE CLOSE IN MEANING ARE: TEASING, BACK-COMBING, FRENCH LACING AND BACK-BRUSHING. THEY SIMPLY MEAN PUSHING THE HAIR IN THE OPPOSITE DIRECTION OR TOWARD THE SCALP FOR FULLNESS AND CONTROL.

****

PAGE 6

BACK-COMBING, FRENCH LACING AND TEASING ARE ACCOMPLISHED WITH A COMB.

BACK-BRUSHING IS ACCOMPLISHED WITH A BRUSH.

THE TECHNIQUE USED DEPENDS ON THE TEXTURE OF HAIR AND STYLE DESIRED.

SMOOTHING REQUIRES A LIGHT COMBING OR BRUSHING ON TOP OF THE HAIR FOR A NICE FINISHED LOOK TO THE STYLE.

PAGE 7

1. THE MOST IMPORTANT PART OF STYLING THE CLIENT'S HAIR IS THE ---.

   A. HOT IRON

   B. SHAMPOO

   C. COMB-OUT

   D. PRESSING OIL

****

PAGE 8

2. TERMS USED IN THE COMB-OUT WOULD INCLUDE: LACING, BACK-COMBING, BACK-BRUSHING AND ---.

   A. PARTING

   B. TEASING

   C. CUTTING

   D. SHAMPOOING

PAGE 9

3. WHICH IMPLEMENT IS USED IN BACKBRUSHING? ---

A. WAVE LOTION

B. PIN CURL

C. COMB

D. BRUSH

****

PAGE 10

4. WHICH IMPLEMENT IS USED IN LACING THE HAIR? ---

A. COMB

B. BRUSH

C. SHAMPOO

D. WAVE LOTION

PAGE 11

5. BACKCOMBING, LACING OR BACK-BRUSHING ARE USED IN A COMB-OUT TO GIVE FULLNESS AND SMOOTHNESS. THIS SIMPLY MEANS -----.

A. THE DIRECTION YOU ROLL THE HAIR

B. THE HAIR IS PUSHED IN THE OPPOSITE DIRECTION

C. THE SECTIONS YOU DIVIDE THE HAIR INTO

D. THE HAIR IS CUT INTO LAYERS

****

PAGE 12

PAGE 9

3. WHICH IMPLEMENT IS USED IN BACK-BRUSHING? ---

A. WAVE LOTION

B. PIN CURL

C. COMB

D. BRUSH

****

PAGE 10

4. WHICH IMPLEMENT IS USED IN LACING THE HAIR? ---

A. COMB

B. BRUSH

C. SHAMPOO

D. WAVE LOTION

PAGE 11

5. BACKCOMBING, LACING OR BACK-BRUSHING ARE USED IN A COMB-OUT TO GIVE FULLNESS AND SMOOTHNESS. THIS SIMPLY MEANS -----.

A. THE DIRECTION YOU ROLL THE HAIR

B. THE HAIR IS PUSHED IN THE OPPOSITE DIRECTION

C. THE SECTIONS YOU DIVIDE THE HAIR INTO

D. THE HAIR IS CUT INTO LAYERS

****

PAGE 12

	ANSWERS	PAGE REF.
1	C	3
2	B	4
3	D	6
4	A	6
5	B	5

COMB-OUT

GLOSSARY

ACCOMPLISH

ac com plish

To bring to its goal or conclusion; perform; carry out; finish.

You must work hard to accomplish your goal.

BACK-BRUSHING

back-brush ing

Pushing the hair toward the scalp for fullness and control.

Back-brushing was used to obtain the fullness the hairstyle required.

BACK-COMBING

back - comb ing

Same as back-brushing except a comb is used instead of a brush. Refer to back-brushing.

Back-combing is used to obtain fullness.

CLIENT

cli ent

A customer, patron; a person who engages the professional services of another.

The cosmetologist should always consider the wishes of the client.

COMB-OUT

comb - out

One of the important parts of styling. After the hair has been set and dried, it is combed or brushed into a style.

The comb-out may require the use of both combs and brushes.

FEATURES

fea tures

Any part of the face, as the nose, chin, etc.

Her delicate features were highlighted by the simple hairstyle.

FRENCH LACING

French lac ing

Same as back-combing,
refer to back-combing.

The proper name for
teasing is French lacing.

IMPLEMENT

im ple ment

An instrument, tool;
an article of equip-
ment.

The implement used in
back-combing is a comb.

INTERCHANGEABLE

in ter change a ble

Capable of changing places;
capable of being used in, or
used in the place of, each
other.

The parts are interchangeable.

SMOOTHING

smooth ing

Finishing the hair with a light combing or brushing on top of the hair to give a polished look.

Smoothing the hair after it has been back-combed gives the hair a finished look.

TEASING

teas ing

(Same as back-combing)

TEXTURE

tex ture

The feel of the individual hair strand and the size of the strand classified as course, medium or fine.

Hair texture should be considered when selecting the client's hairstyle.

7

Chemical Hair Relaxing

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

CHEMICAL HAIR RELAXING

VOCABULARY:

CHEMICAL HAIR RELAXING

CHEMICAL HAIR RELAXER

SODIUM HYDROXIDE

AMMONIUM THIOGLYCOLATE

PENETRATE

CUTICLE SCALES

KINKY

NEUTRALIZER

PAGE 3

VOCABULARY (CONTINUED)

FIXATIVE

STABILIZER

****

PAGE 4

CHEMICAL HAIR RELAXING STRAIGHTENS KINKY OR OVER-CURLY HAIR USING CHEMICALS. THIS PROCESS WILL LEAVE HAIR STRAIGHT.

TWO PRODUCTS ARE USED IN CHEMICAL HAIR RELAXING:

1. CHEMICAL HAIR RELAXER, AND
2. THE NEUTRALIZER.

PAGE 5

THE HAIR RELAXER PENETRATES THE HAIR SHAFT, OPENS THE CUTICLE SCALES, AND RELAXES OR STRAIGHTENS THE CHEMICAL BONDS INSIDE THE HAIR SHAFT. SODIUM HYDROXIDE AND AMMONIUM THIOGLYCOLATE ARE THE CHEMICALS USED.

****

PAGE 6

THE NEUTRALIZER, SOMETIMES CALLED THE FIXATIVE OR STABILIZER, STOPS THE ACTION OF THE HAIR RELAXER, AND "FIXES" THE HAIR TO ITS NEW STRAIGHT POSITION.

IN ALL CASES, THE COSMETOLOGIST MUST CLOSELY FOLLOW THE MANUFACTURER'S DIRECTIONS WRITTEN ON THE PRODUCT OR PRODUCT PACKAGE.

PAGE 7

1. THE NEUTRALIZER MAY ALSO BE REFERRED TO AS THE -----.

A. FIXATIVE

B. STABILIZER

C. HAIR RELAXER

D. BOTH A AND B

****

PAGE 8

2. SODIUM HYDROXIDE AND AMMONIUM THIOGLYCOLATE ARE THE CHEMICALS USED IN THE -----.

A. FIXATIVE

B. HAIR RELAXER

C. NEUTRALIZER

D. STABILIZER

373

PAGE 9

3. THE ----- PENETRATES THE HAIR SHAFT TO RELAX THE TIGHT CURL.

A. FIXATIVE

B. HAIR RELAXER

C. NEUTRALIZER

D. STABILIZER

****

PAGE 10

4. THE NEUTALIZER STOPS THE ACTION OF THE ----- WHEN APPLIED TO THE HAIR SHAFT.

A. HAIR RELAXER

B. FIXATIVE

C. STABILIZER

PAGE 11

	ANSWERS	PAGE REF.
1	D	6
2	B	5
3	B	5
4	A	6

CHEMICAL HAIR RELAXING

GLOSSARY

AMMONIUM THIOGLYCOLATE

am mo ni um thi o gly co late

A chemical used in cold waving and hair relaxing.

Nancy's hair was too curly to style until it was treated with ammonium thioglycolate.

CHEMICAL HAIR RELAXER

chem i cal hair re lax er

A chemical agent which is employed to straighten over-curly hair.

They used a chemical hair relaxer on Susan's hair.

CHEMICAL HAIR RELAXING

chem i cal hair re lax ing

The process of straightening over-curly hair by the use of chemical agents.

Gail's hair was straightened by chemical hair relaxing.

CUTICLE SCALES

cu ti cle scales

The horny outer layer of the skin or hair.

Cuticle scales open to allow for the penetration of chemical hair relaxers.

FIXATIVE

fix a tive

A chemical agent used in cold waving to stop the action of wave hardening and setting the curl in its new form; a neutralizer or stabilizer.

A fixative is used to stop the cold waving process.

KINKY

kink y

Tightly twisted or curled.

Debbie's hair was too kinky after she had a permanent.

NEUTRALIZER

neu tral iz er

Refers to the oxidizing agent which stops the action of cold wave lotions, dyes, etc.

The neutralizer was used to stop the relaxing treatment.

PENETRATE

pen e trate

To pass into or through.

Permanent tints penetrate the cuticle layer of the hair shaft.

SODIUM HYDROXIDE

so di um hy drox ide

A white brittle solid that is a strong caustic base used in chemical hair relaxing.

Use special precautions when applying sodium hydroxide to the hair.

STABILIZER

sta bi liz er

A chemical agent used in cold waving to stop the action of wave hardening and setting the curls in its new form; a neutralizer or fixer.

A stabilizer is used to stop the cold waving process.

ANALYSIS OF THE HAIR

VOCABULARY:

CHEMICAL HAIR RELAXING

INJURIES

INFECTED

POROSITY

FINGER TEST

INDEX FINGER

POROUS

ABSORB

****

VOCABULARY: (CONTINUED)

ELASTICITY

PULL TEST

CROWN

CONDITIONING

RELAXER TEST

TEXTURE

PAGE 3

BEFORE THE COSMETOLOGIST APPLIES ANY CHEMICAL SOLUTION IN CHEMICAL HAIR RELAXING, THE PATRON'S HAIR SHOULD BE TESTED FOR TEXTURE, POROSITY, ELASTICITY AND HAIR DAMAGE OR BREAKAGE. THE SCALP SHOULD ALSO BE CHECKED FOR ANY SCRATCHES, CUTS OR OPEN SORES.

****

PAGE 4

IF ANY SUCH INJURIES ARE PRESENT, THEY WILL BECOME INFECTED WITH THE ADDITION OF CHEMICALS. DO NOT APPLY ANY CHEMICAL HAIR RELAXER UNTIL THE SCALP IS HEALTHY AND FREE OF ANY CUTS OR SORES.

PAGE 5

A FINGER TEST IS USED TO CHECK THE POROSITY OF THE HAIR SHAFT. TAKE A SINGLE STRAND OF HAIR AND PULL IT BETWEEN THE THUMB AND INDEX FINGER. IF IT FEELS BUMPY, THE HAIR IS POROUS, AND WILL BE ABLE TO EASILY ABSORB THE CHEMICAL HAIR RELAXER.

****

PAGE 6

A PULL TEST IS USED TO DECIDE THE AMOUNT OF ELASTICITY. SELECT ABOUT TEN STRANDS OF HAIR NEAR THE CROWN OF THE HEAD, PULL THEM GENTLY. IF THE HAIR APPEARS TO STRETCH AND THEN RETURN TO ITS CURL, THE HAIR HAS ELASTICITY AND CAN BE CHEMICALLY RELAXED. IF THE HAIR BREAKS OR DOES NOT STRETCH, CONDITIONING IS NEEDED BEFORE USING CHEMICALS.

PAGE 7

THE RELAXER TEST IS DONE ON A SMALL SECTION OF THE HAIR. CHEMICAL RELAXER IS APPLIED TO A FEW HAIR STRANDS. THE RELAXER IS KEPT ON THE HAIR FOR TWO OR THREE MINUTES, THEN REMOVED WITH A PIECE OF DRY COTTON. IF THE HAIR STRAIGHTENS, PROCEED WITH THE CHEMICAL HAIR RELAXING.

****

PAGE 8

IF THE HAIRS DO NOT STRAIGHTEN, THIS TELLS THE COSMETOLOGIST THE CHEMICAL RELAXING WILL NOT WORK ON THIS TYPE OF HAIR. DO NOT PROCEED WITH THE CHEMICAL RELAXING IF HAIR DOES NOT STRAIGHTEN.

PAGE 9

1. PULLING THE HAIR GENTLY AND CHECKING TO SEE IF THE HAIR RETURNS TO ITS ORIGINAL CURL IS A TEST USED TO CHECK -----.

A. DAMAGE

B. ELASTICITY

C. POROSITY

D. TEXTURE

****

PAGE 10

2. IF AFTER A RELAXER TEST, THE HAIR STRANDS ARE STRAIGHT, THE COSMETOLOGIST SHOULD -----.

A. PROCEED WITH THE CHEMICAL HAIR RELAXER

B. DECIDE NOT TO CHEMICALLY RELAX THIS TYPE OF HAIR

C. USE A PERMANENT COLD WAVE

D. USE A HEAT ACTIVATED WAVE

PAGE 11

3. BY USING THE PULL TEST ON A PATRON, YOU LEARNED THAT THE HAIR HAS NO ELASTICITY. THE HAIR BROKE WHEN YOU STRETCHED IT. THE COSMETOLOGIST SHOULD -----.

A. USE A CHEMICAL HAIR RELAXER

B. USE AN EXTRA STRONG RELAXER

C. CONDITION THE HAIR

****

PAGE 12

4. IN A SALON, A PATRON REQUESTS CHEMICAL HAIR RELAXING. WHILE EXAMINING HER SCALP, THE COSMETOLOGIST FINDS SEVERAL OPEN CUTS, SHE SHOULD -----.

A. CONDITION THE HAIR THEN CHEMICALLY RELAX THE HAIR

B. USE BORIC ACID THEN CHEMICALLY RELAX THE HAIR

C. WAIT UNTIL ALL SORES ARE HEALED AND THE SCALP IS HEALTHY

AGE 13

5. HOW LONG SHOULD CHEMICAL RELAXER BE KEPT ON A PATRON'S HAIR?

A. 8-10 MINUTES

B. 2-3 MINUTES

C. 15-18 MINUTES

****

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ANALYSIS OF THE HAIR

FOOTNOTES

PAGE 5
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PAGE 6
IBID.

PAGE 7
IBID.

ANALYSIS OF THE HAIR

GLOSSARY

ABSORB

ab sorb

To take in.

A cotton ball can easily absorb alcohol.

CHEMICAL HAIR RELAXING

chem i cal hair re lax ing

The process of straightening over-curly hair by the use of chemical agents.

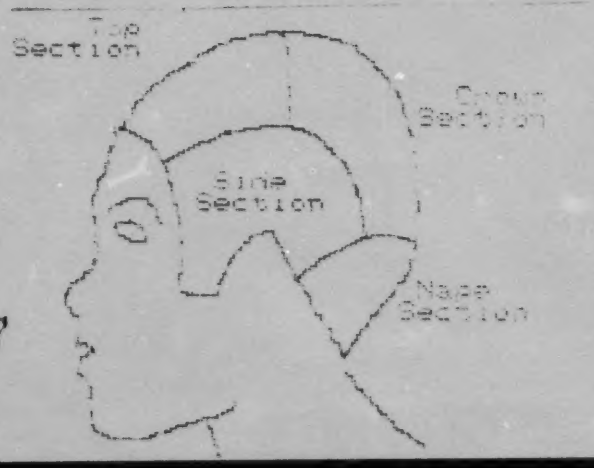
A chemical hair relaxing treatment will control kinky or very curly hair.

CONDITIONING

con di tion ing

The application of special chemical agents to the hair to help restore its strength and give it body. It also protects the hair against possible breakage.

Tammy needs a conditioning treatment before she has her hair tinted.



CROWN

crown

The top of the head.

When thinning hair never thin the crown section.

ELASTICITY

e las tic i ty

The property that allows a thing to be stretched and return to its former shape.

A rubber band has elasticity.

FINGER TEST

fin ger test

A test given to determine the degree of porosity in the hair.

A finger test should always be given prior to a permanent.

INDEX FINGER

in dex fin ger

The finger next to the thumb.

The nurse asked us to hold out our index finger.

INFECTED

in fec ted

To contaminate with disease producing matter.

If you do not keep that wound clean, it will become infected.

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INJURIES

in ju ries

Physical harm or damage to a person, property, etc.

Injuries may result when safety procedures are neglected.

PULL TEST

pull test

Used to find out how great the elasticity is in the hair.

For a good cold wave, a pull test should be given prior to the permanent.

RELAXER TEST

re lax er test

The application of the relaxer to the hair strand that will indicate the ultimate results of the complete treatment.

A relaxer test should be given prior to a chemical relaxing treatment.

TEXTURE

tex ture

The general quality of something-- the way it feels and its appearance.

Nancy's hair texture is medium.

STEPS INVOLVED IN CHEMICAL HAIR RELAXING

VOCABULARY:

PROCESSING

CHEMICAL HAIR RELAXER

NEUTRALIZING

CONDITIONING

TREATMENTS

****

THERE ARE THREE MAJOR STEPS IN CHEMICAL HAIR RELAXING. THESE STEPS ARE:

1. PROCESSING,
2. NEUTRALIZING; AND
3. CONDITIONING.

PAGE 3

PROCESSING IS THE NAME GIVEN TO THE TIME WHEN THE CHEMICAL HAIR RELAXER IS ON THE HAIR. DURING THIS TIME, THE HAIR BEGINS TO SOFTEN AND THE CURL 'RELAXES' TO A STRAIGHT POSITION.

****

PAGE 4

NEUTRALIZING RINSES THE CHEMICAL RELAXER FROM THE HAIR USING WARM WATER. THE HAIR IS THEN WASHED WITH A SHAMPOO, AND THE NEUTRALIZER IS APPLIED. (SOME SHAMPOOS HAVE A BUILT-IN NEUTRALIZER SO THE TWO STEPS IN NEUTRALIZING ARE COMBINED.)

PAGE 5

CONDITIONING MAY BE IN THE FORM OF

SEVERAL TREATMENTS, OR IT MAY BE APPLIED BEFORE OR AFTER THE HAIR RELAXER. THE CONDITIONER GIVES STRENGTH AND BODY TO THE HAIR AND PROTECTS IT AGAINST BREAKAGE. CONDITIONING THE HAIR IS VERY IMPORTANT. THE CHEMICALS APPLIED TO THE HAIR ARE STRONG AND MAY CAUSE DAMAGE OR BREAKAGE.

****

PAGE 6

1. THE CHEMICAL RELAXER SHOULD BE RINSED FROM THE HAIR USING ---.

   A. A NEUTRALIZER

   B. A CONDITIONER

   C. WARM WATER

   D. SHAMPOO

PAGE 7

2. THE PROCEDURE BY WHICH THE HAIR IS SOFTENED AND ASSUMES A STRAIGHT POSITION IS CALLED -----.

A. NEUTRALIZING

B. PROCESSING

C. CONDITIONING

D. FIXING

****

PAGE 8

3. WHICH OF THE THREE BASIC STEPS IN CHEMICAL HAIR RELAXING INCLUDES SHAMPOOING? -----

A. CONDITIONING

B. PROCESSING

C. OVER-PROCESSING

D. NEUTRALIZING

PAGE 9

4. TO HELP PROTECT AGAINST DAMAGING, THE HAIR IS -----.

A. CONDITIONED

B. NEUTRALIZED

C. SHAMPOOED

D. PROCESSED

****

PAGE 10

	ANSWERS	PAGE REF.
1	C	4
2	B	3
3	D	4
4	A	5

STEPS INVOLVED IN CHEMICAL HAIR RELAXING

GLOSSARY

CHEMICAL HAIR RELAXER

chem i cal hair re lax er

A chemical agent which is employed to straighten over-curly hair.

With the use of a chemical hair relaxer Donna's hair could be as straight as mine.

CONDITIONING

con di tion ing

The application of special chemical agents to the hair to help restore its strength and give it body in order to protect it against possible breakage.

Vicki needs a conditioning treatment before she has her hair tinted.

NEUTRALIZING

neu tral iz ing

Stops the action of cold wave lotions, dyes, etc.

Neutralizing the hair is the last step in a perm.

PROCESSING

proc ess ing

The action of the chemical relaxer in softening the hair and relaxing the curl.

Over-processing the hair can cause damage to the hair shaft.

TREATMENTS

treat ments

Corrective measures to help restore things to normal.

Beauty salons have many hair <u>treatments</u> available to patrons.

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROJECT COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

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PROGRAMMERS:

JIM HURD

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****

STEPS FOR SODIUM HYDROXIDE RELAXER

VOCABULARY;

SODIUM HYDROXIDE RELAXER

PETROLEUM BASE PRODUCT

HARSH CHEMICALS

PRECONDITIONER

CONDITIONER

RECOMMEND

RELAXER

NAPE OF THE NECK

CROWN

PAGE 3

VOCABULARY (CONTINUED)

TANGLING

NEUTRALIZER

SATURATED

SCALP CREAM

RESTORE

RETOUCH

ACTIVATE

SEQUENCE

NEW HAIR GROWTH

****

PAGE 4

SELECT AND ARRANGE THE REQUIRED SUPPLIES NECESSARY FOR CHEMICAL RELAXING.

PAGE 5

SUPPLIES AND INSTRUMENTS NEEDED:

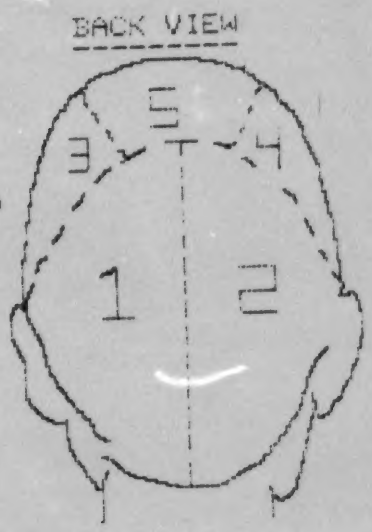
SODIUM HYDROXIDE CHEMICAL RELAXER

NEUTRALIZER	COMB & BRUSH
SHAMPOO	TIMER
SHAMPOO CAPE	COTTON
PETROLEUM JELLY	NECK STRIP
HAIR CONDITIONER	CLIPS
PROTECTIVE GLOVES	END PAPERS
ROLLERS	
TOWELS	

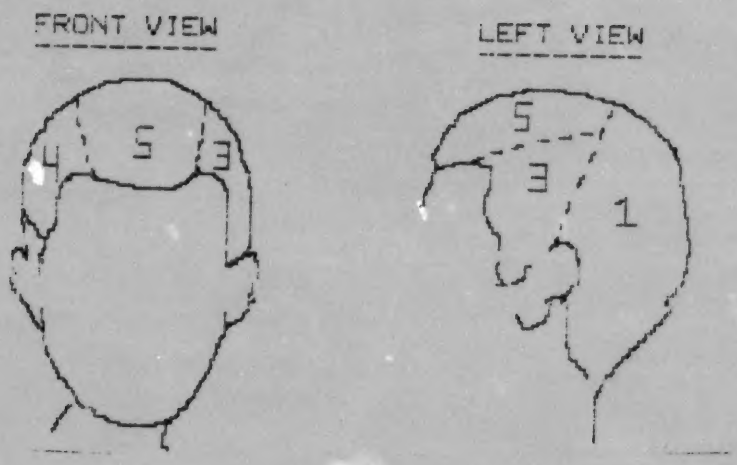
****

PAGE 6
FIGURE 1

1. The dry hair is parted into five (5) sections.



PAGE 7
FIGURE 2



****

PAGE 8

2. APPLY A PETROLEUM BASE PRODUCT TO PROTECT THE SCALP AND SKIN FROM THE HARSH CHEMCIALS USED.

3. IN SOME CASES, A PRECONDITIONER IS RECOMMENDED BY THE MANUFACTURER. IF NEEDED, APPLY CONDITIONER, FOLLOWING MANUFACTURER'S DIRECTIONS.

4. USING RUBBER OR PLASTIC GLOVES, APPLY THE SODIUM HYDROXIDE RELAXER ABOUT ONE-HALF INCH FROM THE SCALP AND WORK DOWN THE HAIR SHAFT. DO NOT APPLY RELAXER TO ENDS OF HAIR. THEY ARE THE WEAKEST PART OF THE HAIR AND WILL BREAK EASILY.

PAGE 9

BE CAREFUL NOT TO TOUCH THE EAR, THE SCALP, OR THE SKIN WITH RELAXER. THE RELAXER IS LAID ON THE HAIR. DO NOT RUB OR SPREAD THE RELAXER. RELAXER IS APPLIED TO THE FIVE DIVIDED SECTIONS OF THE HAIR AS DESCRIBED IN NUMBER 1. START WITH SECTION 2, THEN PROCEED TO 1,3, 5, AND LASTLY SECTION 4. START AT THE NAPE AND WORK TOWARD THE CROWN.

5. SPREAD THE RELAXER TO THE HAIR ENDS AND UP TO THE SCALP. FOLLOW MANUFACTURER'S DIRECTIONS TO DETERMINE THE LENGTH OF TIME THE RELAXER IS KEPT ON THE HAIR.

****

PAGE 10

VARIOUS TYPES OF HAIR REQUIRE DIFFERENT RELAXING TIMES. FOR EXAMPLE: FINE HAIR WOULD REQUIRE LESS TIME TO RELAX THAN COURSE HAIR.

6. RINSE THE RELAXER THOROUGHLY WITH WARM WATER.

7. GENTLY SHAMPOO THE HAIR. TRY TO AVOID TANGLING THE ENDS. RINSE WITH WARM WATER. THREE APPLICATIONS OF SHAMPOO ARE NEEDED TO MAKE SURE ALL CHEMICAL RELAXING SOLUTION IS GONE.

8. APPLY NEUTRALIZER WITH A COMB, MAKING SURE THE HAIR IS SATURATED.

PAGE 11

9. SET THE HAIR FOR THE STYLE REQUESTED.

10. AFTER THE SET IS DRIED, AND ROLLERS REMOVED, APPLY A SCALP CREAM TO RESTORE NATURAL OILS TO THE HAIR AND SCALP.

RETOUCHING IS DONE IN THE SAME SEQUENCE AS LISTED IN STEPS 1 TO 10. BUT THE RELAXER IS ONLY APPLIED TO THE NEW HAIR GROWTH.

****

PAGE 12

1. THE HAIR IS DIVIDED INTO ----- SECTIONS BEFORE THE APPLICATION OF THE CHEMICAL RELAXER.

A. FIVE

B. THREE

C. SIX

D. FOUR

PAGE 13

2. A PETROLEUM BASE PRODUCT IS APPLIED TO THE SCALP TO -----.

A. ACTIVATE THE CHEMICAL RELAXER

B. ACTIVATE THE FIXER

C. PROTECT THE SCALP FROM HARSH CHEMICALS

****

PAGE 14

3. WHEN INITIALLY APPLYING THE SODIUM HYDROXIDE CHEMICAL RELAXER, THE COSMETOLOGIST SHOULD -----.

A. SATURATE THE HAIR SHAFT, PUTTING A LOT ON THE HAIR ENDS

B. RUB THE RELAXER INTO THE HAIR SHAFT

C. AVOID PUTTING RELAXER ON THE HAIR ENDS AND CLOSE TO THE SCALP

PAGE 15

4. RINSE THE RELAXER USING -----
WATER.

A. HOT

B. WARM

C. COLD

****

PAGE 16

5. THE STABILIZER IS APPLIED USING
-----.

A. A COMB

B. A BRUSH

C. RUBBER GLOVES

PAGE 17

6. IN RETOUCHING THE CHEMICALLY RELAXED HAIR, THE CHEMICAL RELAXER SHOULD BE APPLIED -----.

A. ONLY ON THE HAIR ENDS

B. TO THE ENTIRE HAIR SHAFT

C. ONLY TO THE NEW GROWTH OF THE HAIR

****

PAGE 18

	ANSWERS	PAGE REF.
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2	C	8
3	C	8
4	B	10
5	A	10
6	C	11

STEPS FOR SODIUM HYDROXIDE RELAXER

GLOSSARY

ACTIVATE

ac ti vate

To make reactive.

A warm and gentle perm requires the use of a hairdryer to activate the cold wave lotion.

CONDITIONER

con di tion er

A chemical agent, applied to the hair to help restore its strength and give it body in order to protect it against possible breakage.

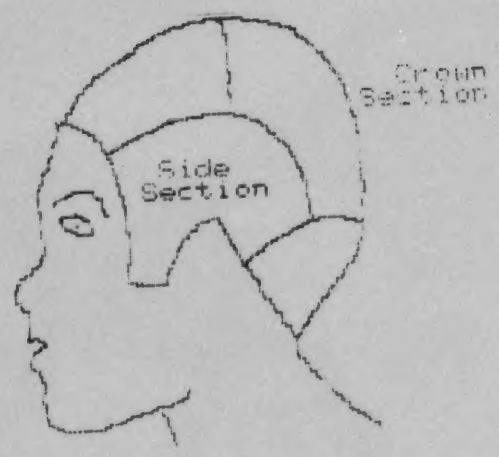
Sarah used a conditioner on her hair every morning.

CROWN

crown

The top part of the head.

When thinning hair, never thin in the crown area.



HARSH CHEMICALS

harsh chem i cals

Substances that have damaging effects on the skin, scalp or nails.

Abrasions can be formed or irritated by improper use of harsh chemicals.

NAPE OF THE NECK

nape of the neck

Where the hairline begins at the back of the neck.

Sue took a one-inch guideline of hair starting at the nape of the neck.

NEUTRALIZER

neu tral iz er

Refers to the oxidizing agent which stops the action of the relaxers, cold waves, etc.

Sandy's hair was relaxed enough to apply the neutralizer to stop the action of the relaxer.

NEW HAIR GROWTH

new hair growth

The regrowth of hair
that usually occurs
monthly.

Denise needed a retouch
to cover the new hair growth.

PETROLEUM BASE PRODUCT

pe tro le um base prod uct

A substance containing
oil that has come earth.

Petroleum jelly is a
petroleum base product.

PRECONDITIONER

pre con di tion er

Chemical agents that are applied
to strengthen and protect hair
from possible breakage.

A preconditioner may be
applied to very dry hair.

RECOMMEND

rec om mend

To suggest as one's advice.

I recommend Wella Balsam
conditioner for damaged hair.

RELAXER

re lax er

A chemical applied to the hair to remove the natural curl.

Jeannie has to have a relaxer applied to her over-curly hair.

RESTORE

re store

To put back into the original state.

Vicki's hair needed scalp treatments to restore its natural shine.

RETOUCH

re touch

To touch up in order to produce a more desirable appearance.

She needed a retouch to cover up the regrowth of her hair.

SATURATED

sat u rat ed

To the point where not more can be absorbed.

411

Chris' hair was completely saturated with the cold wave solution.

SCALP CREAM

scalp cream

A special cream designed to restore some of the natural oils to the scalp and hair.

Linda used a scalp cream twice a week on her hair.

SEQUENCE

se quence

A continuous or connected series.

Kathy was given a sequence of hair appointments.

SODIUM HYDROXIDE RELAXER

so di um hy drox ide re lax er

A chemical agent that has a softening and swelling action, particularly on over-curly hair.

Nancy's hair needed to be straightened with the use of a sodium hydroxide relaxer.

TANGLED

tan gled

Hair strands that have become knotted, twisted or snarled.

Creme rinse will help prevent tangled hair.

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AMMONIUM THIOGLYCOLATE RELAXER

(THIO RELAXER)

CONDITIONER

AMMONIUM THIOGLYCOLATE CHEMICAL RELAXER

THIO RELAXER

SODIUM HYDROXIDE RELAXER

NEUTRALIZER

SCALP CREAM

RETOUCH

NEW GROWTH

****

THE STEPS USED IN THE AMMONIUM THIOGLYCOLATE (ALSO CALLED THIO RELAXER) TYPE OF CHEMICAL RELAXING DIFFERS FROM THE STEPS USED IN THE SODIUM HYDROXIDE RELAXER.

ALWAYS READ THE MANUFACTURER'S LABEL AND DIRECTIONS BEFORE STARTING ANY CHEMICAL RELAXING PROCEDURE.

PAGE 3

THE STEPS INVOLVED IN USING AN

AMMONIUM THIOGLYCOLATE RELAXER

ARE:

1. SHAMPOO THE HAIR AND RINSE WITH WARM WATER. TOWEL DRY THE HAIR.

2. APPLY HAIR CONDITIONER, IF RECOMMENDED BY MANUFACTURER. THEN RINSE OUT CONDITIONER.

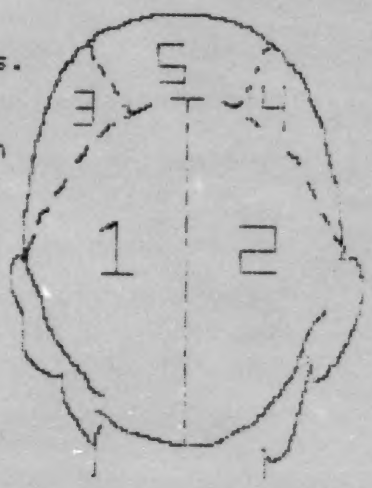
3. MIX NEUTRALIZER USING MANUFACTURER'S DIRECTIONS.

4. DIVIDE HAIR INTO 5 SECTIONS. (SECTIONS AND APPLICATION SAME AS SODIUM HYDROXIDE RELAXER.)

****

PAGE 4
FIGURE 1

Divide the hair into five sections. Start applying relaxer to section 2, proceed to 1, 3, 5, and lastly 4.



PAGE 5

5. SPREAD RELAXER TO ENDS AND CLOSE TO SCALP.

6. RINSE ABOUT ONE-HALF OF RELAXER OUT OF HAIR. WITH REMAINING ONE-HALF OF RELAXER, COMB STRAIGHT FOR ABOUT 5 MINUTES. RINSE REMAINING RELAXER FROM HAIR KEEPING AS STRAIGHT AS POSSIBLE.

7. APPLY NEUTRALIZER WITH COMB, KEEPING HAIR STRAIGHT. RINSE.

8. AFTER THE SET IS DRIED AND THE ROLLERS REMOVED, APPLY A SCALP CREAM TO RESTORE NATURAL OILS TO THE HAIR AND SCALP.

RETOUCH ONLY NEW GROWTH, STEPS 1-8

****

PAGE 6

1. USING AN AMMONIUM THIOGLYCOLATE

   RELAXER, THE HAIR IS SHAMPOOED

   -----.

   A. AFTER THE RELAXING ACTION TAKES PLACE

   B. AFTER THE NEUTRALIZING ACTION TAKES PLACE

   C. BEFORE THE RELAXER IS APPLIED

PAGE 7

2. ABOUT ONE-HALF OF THE RELAXER IS RINSED OUT. THE REMAINING RELAXER IS ----.

A. COMBED THROUGH THE HAIR TO STRAIGHTEN THE HAIR, THEN RINSED COMPLETELY

B. WASHED OUT WITH SHAMPOO, THEN NEUTRALIZED

C. LEFT ON THE HAIR TO ACT AS A SETTING LOTION

****

PAGE 8

3. WHEN APPLYING THE NEUTRALIZER, THE HAIR MUST BE -----.

A. WOUND AROUND YOUR FINGER TO KEEP THE CURLY WAVE

B. FORMED INTO FINGER WAVES

C. AS STRAIGHT AS POSSIBLE

PAGE 9

4. USING THE NUMBERS OF THE HAIR SECTIONS AS LISTED IN THE SODIUM HYDROXIDE RELAXER MODULE, WHAT IS THE SEQUENCE OF SECTIONS TO BE CHEMICALLY RELAXED? -----

A. START WITH 2, GO TO 1,3,5&4

B. START WITH 1, GO TO 2,3,4&5

C. START WITH 3, GO TO 5,4,2&1

****

PAGE 10

5. WHEN RETOUCHING THE CHEMICALLY RELAXED HAIR, THE CHEMICAL RELAXER SHOULD BE APPLIED -----.

A. ONLY TO THE HAIR ENDS

B. ONLY TO THE NEW GROWTH OF HAIR

C. TO THE ENTIRE HAIR SHAFT

PAGE 11

	ANSWERS	PAGE REF.
1	C	3
2	A	5
3	C	5
4	A	4
5	B	5

GLOSSARY

AMMONIUM THIOGLYCOLATE CHEMICAL RELAXER

am mo ni um thi o gly col ate chem i cal re lax er

A chemical used in cold waving that softens the hair and makes over-curly hair straight by changing the crystalline structures of the hair.

She needed an ammonium thioglycolate chemical relaxer on her hair.

CONDITIONER

con di tion er

A chemical agent, applied to the hair to help restore its strength and give it body in order to protect it against possible breakage.

Sara used a conditioner on her hair every morning.

NEUTRALIZER

neu tral iz er

Refers to the oxidizing agent which stops the action of the relaxers, cold waves, etc.

Sandy's hair was relaxed enough to apply the neutralizer to stop the action of the relaxer.

NEW GROWTH

new growth

The hair that grows out from the scalp every month.

The new growth of the hair on the head averages a quarter of an inch monthly.

RETOUCH

re touch

To touch up in order to produce a more desirable appearance.

She needed a retouch to cover the gray regrowth of her hair.

SCALP CREAM

scalp cream

A special cream designed to restore some of the natural oils to the scalp and hair.

Linda used a scalp cream twice a week on her hair.

SODIUM HYDROXIDE

so di um hy drox ide

A chemical that has a softening and swelling action. It is used on over-curly hair.

Donna's hair required the use of sodium hydroxide to relax her kinky hair.

THIO RELAXER

thi o re lax er

Another name for the Ammonium Thioglycolate chemical relaxer.

420

Susie used a thio relaxer on her curly hair.

8

Hair Coloring

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINAOTOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

HAIR COLORING

VOCABULARY:

CONSULTATION

CLIENT

ABRASIONS

SENSITIVITY TEST

PREDISPOSITION TEST

PATCH TEST

DYE TEST

ALLERGY TEST

PAGE 3

VOCABULARY: (CONTINUED)

DERMATITIS TEST

SKIN TEST

INTERCHANGEABLY

****

PAGE 4

BEFORE ANY HAIR COLORING TAKES PLACE, A CONSULTATION WITH YOUR CLIENT MUST PRECEDE ANY COLORING SERVICE. IT IS IMPORTANT TO DECIDE ON DESIRED COLOR CHANGE, PRICE OF SERVICE, AND TO CHECK FOR SCALP ABRASIONS BEFORE PROCEEDING WITH HAIR COLORING. SINCE ALL THREE WILL AFFECT THE CLIENT, CARE MUST BE GIVEN IN THESE THREE AREAS.

PAGE 5

A TEST REQUIRED BY FEDERAL LAW IS GIVEN TO EACH PATRON 24 HOURS BEFORE HAIR COLORING. THIS IS CALLED A SENSITIVITY TEST, PREDISPOSITION TEST, PATCH TEST, DYE TEST, ALLERGY TEST, DERMATITIS TEST, OR SKIN TEST.

****

PAGE 6

THESE TERMS ALL MEAN THE SAME THING AND ARE USED INTERCHANGEABLY. THIS TEST IS GIVEN IN ONE OR TWO PLACES: BEHIND THE EAR OR ON THE INNER SIDE OF THE ELBOW.

PAGE 7

1. SOME OTHER TERMS USED FOR THE PREDISPOSITION TEST, ARE THE SENSITIVITY TEST, PATCH TEST, DYE TEST, ALLERGY TEST, SKIN TEST, AND -----.

A. COLOR TEST

B. DERMATITIS TEST

C. PERM TEST

D. LIFT TEST

****

PAGE 8

2. BEFORE ANY COLORING TAKES PLACE THE HAIRDRESSER SHOULD -----.

A. CHECK FOR ABRASIONS

B. CONSULT WITH CLIENT

C. SHAPE HAIR

D. BOTH A AND B

GE 9

3. THE PREDISPOSITION TEST IS REQUIRED BY -----.

A. STATE LAW

B. FEDERAL LAW

C. LOCAL LAW

D. THE COSMETOLOGY BOARD

****

PAGE 10

4. AFTER THE PATCH TEST HAS BEEN GIVEN, HOW MANY HOURS ARE REQUIRED TO DETERMINE IF THE PATRON IS ALLERGIC TO DYE? ---

A. FORTY-EIGHT

B. TWENTY-FOUR

C. SEVENTY-TWO

D. TWELVE

PAGE 11

	ANSWERS	PAGE REF.
1	B	5
2	D	4
3	B	5
4	B	5

GLOSSARY

ABRASIONS

a bra sions

Places where the surface has been rubbed or scraped off.

Steve had many abrasions on his scalp.

ALLERGY

al ler gy

Exaggerated or abnormal reaction (as by sneezing, itching, or rashes) to substances, situations, or physical states that are harmless to most people.

Karen has an allergy that prevents her from drinking milk.

CONSULTATION

con sul ta tion

To give opinions, advice, and information in regard to one's best interests.

The cosmetologist had a consultation with the patron.

DERMATITIS TEST

der ma ti tis test

Given to determine the sensitivity of the skin and scalp.

A dermatitis test should be given before applying certain harsh chemicals to the skin.

INTERCHANGEABLE

in ter change a ble

To be able to put each into the place of the other.

There are several hairstyles that can be interchangeable.

PREDISPOSITION TEST

pre dis po si tion test

A skin test designed to determine an individual's sensitivity to certain chemicals.

Predisposition tests are usually given before a color treatment.

SENSITIVITY TEST

sen si tiv i ty test

Given to determine if one is easily affected by certain chemicals.

Jane was given a sensitivity test before her treatment.

SKIN TEST

skin test

Given to determine an individual's sensitivity to certain chemicals.

A skin test should be given before a color treatment.

PAGE 1

HAIR COLORING TERMS

COLOR RINSE

COLOR RINSES CAN TEMPORARILY HIGHLIGHT OR DARKEN HAIR. SINCE THE COLOR ONLY COATS AND DOES NOT PENETRATE THE HAIR SHAFT, COLOR RINSES WASH OUT WITH THE NEXT SHAMPOO.

****

PAGE 2

HIGHLIGHTING SHAMPOO

HIGHLIGHTING SHAMPOOS ARE SIMILAR TO COLOR RINSES. THEY ARE USED TO BRING OUT THE HIGHLIGHTS OF THE NATURAL HAIR COLOR. A HIGHLIGHTING SHAMPOO ALSO WASHES OUT WITH THE NEXT SHAMPOO APPLICATION.

PAGE 3

SEMI-PERMANENT COLOR

SEMI-PERMANENT COLORING IS AVAIL-
ABLE IN A SHAMPOO-IN FORMULA. THIS
TYPE OF COLORING CAN ENRICH THE
NATURAL COLOR, ADD HIGHLIGHTS OR
COVER GRAY. IT WILL NOT, HOWEVER,
MAKE DARK HAIR LIGHT. SEMI-
PERMANENT COLOR DOES NOT CONTAIN

****

PAGE 4

PEROXIDE; THEREFORE, THERE ARE NO
CHEMICAL CHANGES WITHIN THE HAIR
SHAFT. THE COLORING WILL WASH OUT
AFTER SIX SHAMPOOS. REPEATED USE
OF A SEMI-PERMANENT COLOR WILL
CAUSE SOME COLOR BUILD-UP, SO
EVENTUALLY THE EFFECT WILL LAST
LONGER.

PAGE 5

PERMANENT HAIR COLOR

PERMANENT HAIR COLORING CONTAINS PEROXIDE AND VEGETABLE, METALLIC OR ANILINE DYES. PERMANENT HAIR COLORS CAN EITHER LIGHTEN OR DARKEN THE HAIR COLOR. THE COLOR WILL LAST UNTIL THE HAIR GROWS OUT. A PATCH TEST IS REQUIRED.

****

PAGE 6

HIGHLIGHTING

HIGHLIGHTING IS A GENERAL CATEGORY WHICH INCLUDES STREAKING, TIPPING, FROSTING, TORTOISESHELLING, AND SUNBURSTING. THE COLOR IS APPLIED TO CERTAIN HAIRS ONLY FOR A HIGH-LIGHTENING EFFECT.

PAGE 7

STREAKING AND FROSTING ARE USED TO ADD DRAMATIC BLONDE LIGHTS TO DARKER HAIR. STREAKING APPLIES THE COLOR TO STRANDS OF THE HAIR, THEN THE STRANDS ARE WRAPPED IN FOIL. IN FROSTING OR TIPPING, THE HAIR IS PULLED THROUGH HOLES IN A SPECIAL CAP WITH A CROCHET HOOK AND THEN LIGHTENED.

****

PAGE 8

SUNBURSTING AND TORTOISESHELLING PRODUCE SOFTER, MORE SUBTLE VARIATIONS AND USUALLY INCORPORATE RED AS WELL AS GOLD HIGHLIGHTS.

PAGE 9

SINGLE-PROCESS METHOD
::::::::::::::::::::

THE SINGLE-PROCESS METHOD OF HAIR COLORING INVOLVES APPLYING THE COLOR DIRECTLY TO THE HAIR. USED TO COVER GRAY, THIS METHOD WILL BRING OUT HIGHLIGHTS AND DARKEN OR SLIGHTLY LIGHTEN HAIR, DEPENDING UPON THE COLOR CHOSEN AND THE NATURAL COLOR OF THE HAIR.

****

PAGE 10

DOUBLE-PROCESS METHOD
::::::::::::::::::::

THE DOUBLE-PROCESS METHOD OF COLORING IS ACCOMPLISHED IN TWO STEPS. THE FIRST STEP BLEACHES OUT THE EXISTING PIGMENT IN THE HAIR; THE SECOND STEP ADDS A DYE OR TONER TO GIVE HAIR THE DESIRED COLOR. THIS TECHNIQUE IS CHOSEN IF BLONDE OR LIGHT RED EFFECTS ARE REQUESTED BY THE PATRON.

PAGE 11

COLOR FILLER
::::::::::::

COLOR FILLER IS RECOMMENDED FOR DAMAGED HAIR OR HAIR ENDS. FIRST APPLY THE FILLER TO THESE AREAS TO EQUALIZE HAIR POROSITY. FILLERS VARY AS TO COLOR SELECTION, USE AND APPLICATION. FOLLOW THE MANUFACTURER'S INSTRUCTIONS AS YOU PROCEED WITH THIS TREATMENT.

****

PAGE 12

1. WHAT IS THE ACTIVE INGREDIENT IN A PERMANENT HAIR COLOR ?

A. PIGMENT

B. TORTOISESHELL ACID

C. PEROXIDE

D. FILLER

PAGE 13

2. A PATRON WHO HAS DAMAGED HAIR DESIRES A COLOR TREATMENT. THE BEST CHOICE FOR A TREATMENT WOULD BE A ----- .

A. COLOR FILLER

B. ANILINE DYE

C. SHAMPOO BUILDUP COLOR

D. CHEMICAL FROSTING

****

PAGE 14

3. A ----- IS A TEMPORARY COLOR TREATMENT THAT WILL WASH OUT WITH THE NEXT SHAMPOO.

A. SEMI-PERMANENT COLOR

B. PERMANENT HAIR COLOR

C. STREAKING APPLICATION

D. COLOR RINSE

PAGE 15

	ANSWERS	PAGE REF.
1	C	5
2	A	11
3	D	1

HAIR COLORING TERMS

GLOSSARY

COLOR FILLER

col or fil ler

A preparation used to recondition lightened, tinted or damaged hair.

Color filler is recommended for damaged hair or hair ends.

COLOR RINSES

col or rin ses

Coatings that temporarily highlight or darken hair.

Color rinses do not penetrate the hair shaft.

DOUBLE-PROCESS METHOD OF HAIR COLORING

dou ble - pro cess me thod of hair col or ing

Bleaching out the existing pigment, and adding dye or toner to get the desired color.

The double-process method of hair coloring is recommended if blonde or light red effects are desired.

HIGHLIGHTING SHAMPOOS

high light ing sham poos

Used to bring out the highlights of natural hair.

Highlighting shampoo washes out with the next shampoo application.

HAIR COLORING TERMS

GLOSSARY

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Highlighting shampoo washes out with the next shampoo application.

PERMANENT HAIR COLORING

per ma nent hair col or ing

Contains vegetable, metallic or aniline dyes, and peroxide to permanently change the color of hair.

Permanent hair coloring lasts until the hair grows out.

PEROXIDE

per ox ide

A powerful oxidizing agent.

Peroxide is used in tinting and lightening treatments.

SEMI-PERMANENT COLORING

se mi - per ma nent col or ing

Enriches the natural color, adds highlights or covers gray.

Semi-permanent coloring does not contain peroxide.

SINGLE-PROCESS METHOD OF HAIR COLORING

sin gle - pro cess me thod of hair col or ing

Applying color directly to the hair to cover gray.

The single process method of hair coloring will bring out highlights and darken or slightly lighten hair.

PAGE 1

HAIR COLOR-VIRGIN TINT APPLICATION

VOCABULARY:

VIRGIN TINT APPLICATION

CROWN

NAPE OF NECK

RESISTANT

PENETRATE

DEPOSIT

DIAGONAL

SUBSECTIONS

****

PAGE 2

WHEN APPLYING TINT MIXTURE TO THE PATRON'S HAIR, THE COSMETOLOGIST WILL SECTION THE HAIR INTO FOUR QUARTERS.

PAGE 3

THE SECTIONS WILL BE FROM EAR TO EAR, ACROSS THE CROWN, AND FROM FRONT HAIR LINE TO NAPE OF NECK. THIS WILL GIVE THE HAIRDRESSER A STARTING POINT FOR TINT APPLICATION. THE TINT IS APPLIED IN THE GRAYEST AREA FIRST BECAUSE GRAY HAIR IS MOST RESISTANT. IT WILL TAKE LONGER TO PENETRATE THE HAIR AND DEPOSIT COLOR.

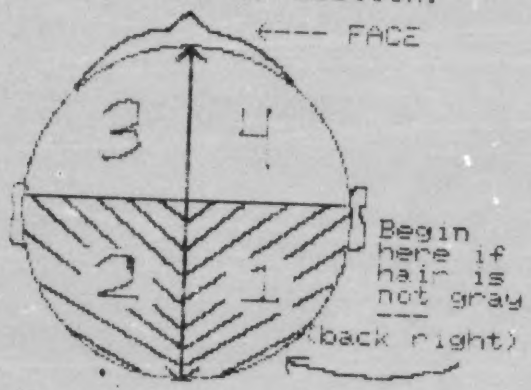
****

PAGE 4

IF THE HAIR IS NOT GRAY, THE TINT WILL BE APPLIED TO THE BACK RIGHT SECTION FIRST.

PAGE 5
FIGURE 1

The parting will be outlined with tint mixture and then 1/4" diagonal partings taken thereafter until nape of neck is reached. The back left section is next to be tinted and then top section.



****

PAGE 6

1. INTO HOW MANY SECTIONS WILL THE COSMETOLOGIST SECTION THE HAIR FOR TINTING? ---

   A. TWO

   B. FOUR

   C. SIX

PAGE 7

2. WHERE DOES THE HAIRDRESSER BEGIN THE TINT APPLICATION FIRST?

A. BACK RIGHT

B. TOP

C. GRAY AREA

****

PAGE 8

3. HOW WIDE WILL THE SUBSECTIONS OF TINT APPLICATIONS BE WHEN APPLYING TINT MIXTURE TO THE HAIR? ---

A. 1/2 INCH

B. 1/8 INCH

C. 1/4 INCH

PAGE 9

4. WHICH IS THE LAST SECTION OF HAIR TO BE TINTED IF THE HAIR HAS NO GRAY? ---

A. LEFT BACK

B. TOP

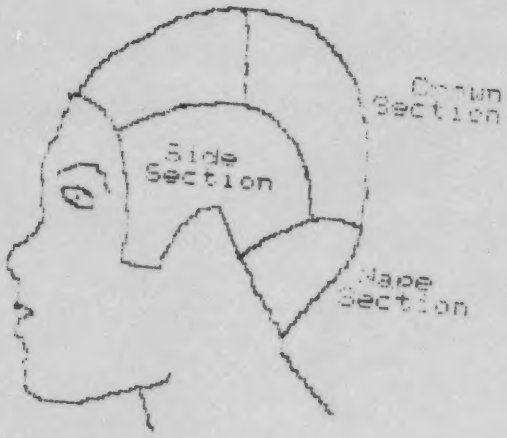
C. RIGHT BACK

****

PAGE 10

	ANSWERS	PAGE REF.
1	B	2
2	C	3
3	C	5
4	B	5

HAIR COLOR - VIRGIN TINT APPLICATION



GLOSSARY

CROWN

crown

The top part of the head.

Hair should never be thinned in the crown area.

DEPOSIT

de pos it

To place something, to lay down or throw in.

A red tint will deposit suble auburn highlights on brown hair.

DIAGONAL

di ag o nal

In a slanted direction.

Diagonal cuts are becoming a popular hair-style.

NAPE OF THE NECK

nape of the neck

Where the hairline begins at the back of the neck.

Brenda took an inch guideline, starting at the nape of the neck.

PENETRATE

pen e trate

To pass into or through.

Hair color must <u>penetrate</u> the hair shaft.

RESISTANT

re sist ant

Capable of opposing or retarding.

<u>Resistant</u> hair requires a longer processing time in cold waving.

SUBSECTIONS

sub sec tions

Smaller divisions of larger sections.

Coarse or full hair may require five sections plus two <u>subsections</u>.

VIRGIN TINT APPLICATION

vir gin tint ap pli ca tion

The application of chemicals to hair that has never been damaged or tinted.

Sharon's hair required a <u>virgin tint application</u>.

PAGE 1

HAIR COLOR - TINT RETOUCH

VOCABULARY:

TINT

RETOUCH

NEW GROWTH

PATCH TEST

SENSITIVITY

ABRASIONS

VIRGIN APPLICATION

SUBSECTION

****

PAGE 2

VOCABULARY: (CONTINUED)

LINE OF DEMARCATION

STRAND TEST

PAGE 3

SINCE HAIR GROWS 1/2 INCH PER MONTH, THE HAIRDRESSER WILL FIND IT NECESSARY TO TINT THE NEW GROWTH OF HAIR. THIS IS CALLED A RETOUCH AND WILL BE NECESSARY EVERY 3 TO 4 WEEKS. A PATCH TEST IS REQUIRED AGAIN BEFORE THE RE-TOUCH IS GIVEN. A 24 HOUR WAITING PERIOD IS REQUIRED FOR SIGNS OF SENSITIVITY.

****

PAGE 4

THE HAIR IS SECTIONED INTO FOUR QUARTERS AND EXAMINED FOR ABRA-SIONS. THESE 4 QUARTERS ARE DIVIDED IN THE SAME MANNER AS A VIRGIN APPLICATION WITH THE SUB-SECTIONS 1/4 INCH WIDE.

450

PAGE 5

OUTLINE THE PARTING WITH TINT MIXTURE AND APPLY THE TINT MIXTURE ON RIGHT BACK SECTION. APPLY TINT ON THE SCALP AND UP TO THE LINE OF DEMARCATION. THIS LINE IS WHERE THE NEW GROWTH ENDS. SET THE TIMER FOR DESIRED TIME AND STRAND TEST HAIR FOR COLOR DEVELOPMENTS.

****

PAGE 6

1. HOW MANY INCHES DOES THE HAIR GROW IN A MONTH? ---

   A. TWO INCHES

   B. THREE INCHES

   C. ONE HALF INCH

PAGE 7

2. WHEN THE COSMETOLOGIST COLORS ONLY THE NEW GROWTH OF HAIR, IT IS CALLED -----.

A. SOAP CAPPING

B. RETOUCHING

C. TINTING

****

PAGE 8

3. THE COSMETOLOGIST IS REQUIRED TO GIVE A PATCH TEST BEFORE EVERY TINT APPLICATION. ---

A. TRUE

B. FALSE

PAGE 9

	ANSWERS	PAGE REF.
1	C	3
2	B	3
3	A	3

GLOSSARY

ABRASIONS

a bra sions

A rubbing or scraping.

There were many abrasions discovered on the patron's scalp.

LINE OF DEMARCATION

line of de mar ca tion

A line setting bounds; leaving an edge.

Mrs. Smith's black hair showed a line of demarcation where the gray regrowth had grown in.

NEW GROWTH

new growth

The amount of hair that regrows monthly.

A normal head of hair has new growth every month.

PATCH TEST

patch test

Given to determine an individual's sensitivity to certain chemicals.

A patch test should be given prior to a permanent color application retouch.

SENSITIVITY

sen si tiv i ty

The state of being easily affected by certain chemicals or external conditions.

Rhonda discovered that her skin has a high sensitivity to many soaps.

STRAND TEST

strand test

To determine an individual's color selection.

Patrons should be given a strand test before any color treatments.

SUBSECTION

sub sec tion

A smaller division of an area that's already been sectioned.

The size of each subsection depends on the length and thickness of the hair.

TINT

tint

Hair colors which are absorbed by the hair permanently or for a few washings.

Many women prefer a temporary tint on their hair.

VIRGIN APPLICATION

vir gin ap pli ca tion

The application of chemicals to hair that has never been damaged, colored or chemically treated before.

I gave my first virgin application this afternoon.

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

HAIR COLOR-BLEACHING OR LIGHTENING

PLATINUM

TINT APPLICATION

BLEACH

HAIR LIGHTENER

PIGMENT

CORTEX

TONER

PATCH TEST

SUFFICIENTLY

PAGE 3

THE COSMETOLOGIST MAY FIND A PA-
TRON WHO WANTS HIS OR HER HAIR
VERY LIGHT BLONDE OR PLATINUM AND
CANNOT GET IT LIGHT ENOUGH WITH A
TINT APPLICATION. THIS PATRON
WOULD NEED A BLEACH. HAIR
LIGHTENER IS THE PREFERRED TERM.

****

PAGE 4

THIS IS THE PROCESS OF MAKING THE
HAIR LIGHTER THAN ITS NATURAL
SHADE BY LIGHTENING THE PIGMENT IN
THE CORTEX.

PAGE 5

THE HAIR PROCEEDS THROUGH SEVERAL STAGES AS IT IS BEING LIGHTENED. IF THE HAIR IS BLACK, IT WILL GO THROUGH SEVEN STAGES. THEY ARE: BLACK, BROWN, RED, RED-GOLD, GOLD, YELLOW AND PALE YELLOW. OF COURSE, IF THE PATRON'S HAIR IS LIGHTER IN COLOR IT WILL GO THROUGH FEWER STAGES OF LIGHTENING.

****

PAGE 6

TONERS ARE USED AFTER LIGHTENING THE HAIR TO PRODUCE A SOFT DELICATE SHADE OR TONE TO THE HAIR. A TONER REQUIRES A PATCH TEST.

PAGE 7

1. IF HAIR CANNOT BE LIGHTENED SUFFICIENTLY WITH A TINT APPLICATION, THE COSMETOLOGIST WOULD USE -----.

A. A STRONGER SHAMPOO

B. A TONER

C. A BLEACH OR HAIR LIGHTENER

D. A FILLER

****

PAGE 8

2. THE COSMETOLOGIST MUST GIVE A PATCH TEST BEFORE A TONER APPLICATION. ---

A. TRUE

B. FALSE

3. IF THE HAIR IS BLACK, HOW MANY STAGES OF HAIR LIGHTENING WILL THE HAIR GO THROUGH? ---

A. FOUR

B. FIVE

C. SEVEN

****

	ANSWERS	PAGE REF.
1	C	3
2	A	6
3	C	5

HAIR COLOR - BLEACHING OR LIGHTENING

GLOSSARY

BLEACH

bleach

A chemical used for the removal of natural pigment or artificial color from the hair.

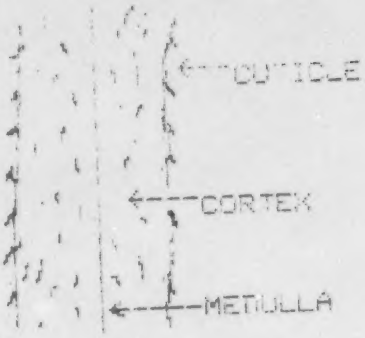
A bleach may be used to lighten dark hair.

CORTEX

cor tex

The second layer of the hair.

A permanent tint penetrates the hair shaft into the cortex.



HAIR LIGHTENER

hair light en er

The removal of natural pigment or artificial color from the hair.

A hair lightener is the first step in a lightening process.

PATCH TEST

patch test

Given to determine one's sensitivity to certain chemicals.

A patch test is required before every tint application.

PIGMENT

pig ment

Any organic coloring matter.

Vicki has mostly red pigment in her hair, but there are also traces of brown.

PLATINUM

plat i num

A pale silvery blonde shade.

Mary Jane is a platinum blonde.

SUFFICIENTLY

suf fi cient ly

Enough to meet the needs of the situation.

When the bleach is sufficiently applied, apply a plastic bag over the head, and place the patron under the dryer.

TINT APPLICATION

tint ap pli ca tion

To give color to the hair by means of a hair tint or color rinse.

A tint application is given to enhance the hair color.

TONER

ton er

An aniline derivative tint applied to the hair after being highly lightened to produce a blonde, silver or pastel shade.

The client wanted a pink toner applied to her hair because later that night she was going to a costume party.

PAGE 1

VIRGIN HAIR BLEACH OR LIGHTENING

APPLICATION

VOCABULARY:

LIGHTENING

CROWN

FRONT HAIRLINE

NAPE OF THE NECK

SUBSECTION

SATURATED

DIAGONAL

****

PAGE 2

VOCABULARY: (CONTINUED)

TONER

HASTENS

PAGE 3

BEFORE APPLYING THE LIGHTENING MIXTURE TO THE HAIR, THE COSMETOLOGIST MUST FIRST SECTION THE HAIR INTO FOUR QUARTERS. THE SECTIONS WILL BE FROM EAR TO EAR ACROSS THE CROWN, AND FROM THE FRONT HAIR LINE TO THE NAPE OF THE NECK.

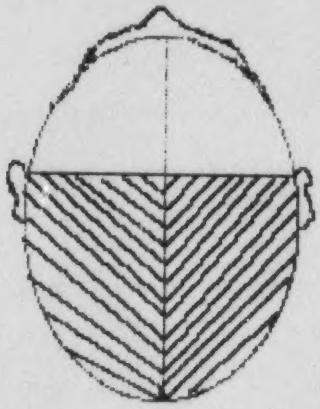
****

PAGE 4

THE FIRST SECTION TO BE LIGHTENED WILL BE THE BACK RIGHT SECTION. THE COSMETOLOGIST WILL APPLY THE MIXTURE 1 INCH AWAY FROM THE SCALP ON EACH STRAND OF HAIR, BECAUSE THE BODY HEAT NEAR THE SCALP WILL LIGHTEN THE HAIR MORE RAPIDLY.

PAGE 5
FIGURE 1

The subsections in each quarter section will be 1/8" wide.



****

PAGE 6

THIS IS A VERY NARROW PARTING, THUS ALLOWING THE HAIR TO BE COMPLETELY SATURATED BY THE LIGHTENING MIXTURE. THE COSMETOLOGIST PROCEEDS TO THE BACK LEFT SECTION, NEXT, TAKING DIAGONAL SECTIONS 1/8 INCH WIDE. THE TOP SECTION IS LIGHTENED LAST.

PAGE 7

WHEN THE HAIR HAS REACHED ONE-HALF THE DESIRED LIGHTNESS, APPLY THE LIGHTENER TO THE ROOT AREA.

RINSE HAIR WHEN DESIRED SHADE OF LIGHTNESS IS REACHED, AND SHAMPOO. IF TONER IS TO BE APPLIED, IT SHOULD BE APPLIED AFTER THE SHAMPOO.

****

PAGE 8

1. WHEN LIGHTENING THE HAIR, THERE ARE FOUR SECTIONS. ---

   A. TRUE

   B. FALSE

467

PAGE 9

2. THE LIGHTENING IS APPLIED TO HAIR BEGINNING ONE INCH FROM THE SCALP. ---

A. TRUE

B. FALSE

****

PAGE 10

3. AFTER SECTIONING THE HAIR INTO 4 QUARTERS, THE SUBSECTIONS ARE 1/8 INCH WIDE WHEN APPLYING THE LIGHTENER. ---

A. TRUE

B. FALSE

PAGE 11

4. WHY IS THE LIGHTENER APPLIED

1 INCH AWAY FROM THE SCALP? ---

A. BLEACH WORKS FASTER AWAY FROM THE SCALP.

B. LIGHTENING MIXTURE IS TOO THICK.

C. BODY HEAT HASTENS LIGHTENING TIME.

****

PAGE 12

469

	ANSWERS	PAGE REF.
1	A	3
2	A	4
3	A	5
4	C	4

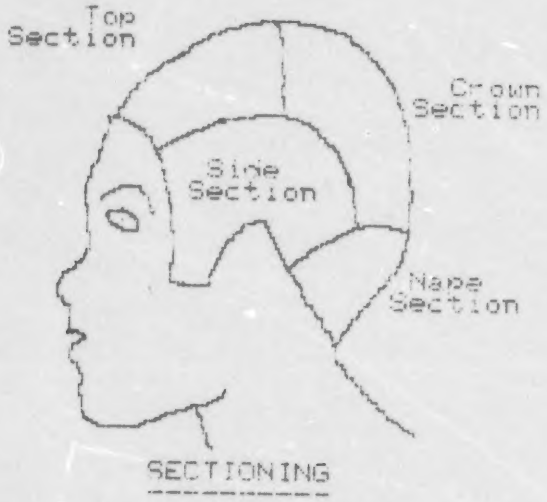
GLOSSARY

CROWN

crown

The top part of the head.

A cosmetologist should never thin the crown section.



DIAGONAL

di ag o nal

A slanting direction.

In a square, the diagonal runs from one corner to the opposite corner.

FRONT HAIRLINE

front hair line

Where the hair begins to grow around the top and sides of the face.

You should never thin the crown or front hairline section.

HASTEN

has ten

To urge on; to speed up.

Heat hastens the action of bleach on the hair.

LIGHTENING

light en ing

To make paler.

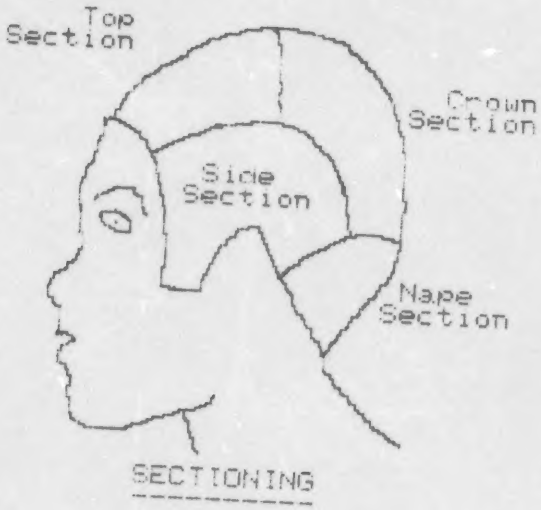
The lightening action of the bleach is hastened by the use of lamps or a dryer.

NAPE OF THE NECK

nape of the neck

Where the hair begins to grow at the back of the neck.

Judith began the haircut at the nape of the neck.



SATURATED

sat u rat ed

To soak thoroughly or completely.

The towel was completely saturated with water.

SUBSECTION

sub sec tion

A smaller division of hair.

It's a good idea to take smaller subsections if the hair is thick.

TONER

ton er

An aniline derivitive tint applied to highly lightened hair to produce a blonde, silver or pastel shade.

A toner enhances the appearance of lightened hair.

PAGE 1

RETOUCH LIGHTENING APPLICATION

VOCABULARY:

NEW GROWTH

PREVIOUSLY

PROCEDURE

RETOUCH

ABRASIONS

CROWN

FRONT HAIRLINE

NAPE OF THE NECK

****

PAGE 2

VOCABULARY: (CONTINUED)

STRAND TEST

REGROWTH

PAGE 3

AFTER THE HAIR HAS ONCE BEEN LIGHTENED, THE NEW GROWTH OF HAIR AT THE SCALP WILL NATURALLY GROW IN DARKER THAN THE PREVIOUSLY-LIGHTENED HAIR. THIS REQUIRES A PROCEDURE CALLED A RETOUCH TO LIGHTEN THE NEW GROWTH. GENERALLY, A RETOUCH IS SUGGESTED WHEN THERE IS APPROXIMATELY 1/4 INCH OF DARKER NEW GROWTH.

****

PAGE 4

THE COSMETOLOGIST WILL CHECK THE SCALP FOR ABRASIONS AND PART THE HAIR INTO FOUR SECTIONS. THE HAIR IS PARTED FROM EAR TO EAR ACROSS THE CROWN, AND FROM THE FRONT HAIR LINE TO THE NAPE OF THE NECK.

PAGE 5

THE LIGHTENER IS APPLIED TO THE BACK RIGHT SECTION OF THE NEW GROWTH. MAKE ONLY VERY THIN PARTINGS, 1/8 INCH WIDE, AND DO NOT OVERLAP ONTO PREVIOUSLY LIGHTENED HAIR.

SET TIMER AND STRAND TEST HAIR FOR DESIRED COLOR DEVELOPMENT. WHEN DESIRED COLOR HAS BEEN REACHED, RINSE AND SHAMPOO THE HAIR.

****

PAGE 6

1. WHEN GIVING A RETOUCH, THE COSMETOLOGIST COVERS -----.

   A. THE ENDS

   B. THE NEW GROWTH

   C. THE SHAFT

PAGE 7

2. HOW MUCH REGROWTH IS USUALLY PRESENT BEFORE THERE IS A NEED TO LIGHTEN THE HAIR? ---

A. 1/4 INCH

B. 1/8 INCH

C. 1/2 INCH

****

PAGE 8

3. HOW WIDE ARE THE SUBSECTIONS FOR A RETOUCH? ---

A. 1/2 INCH

B. 1/8 INCH

C. 1/4 INCH

476

AGE 9

4. WHEN LIGHTENING THE HAIR FOR A RETOUCH, WHICH SECTION IS LIGHTENED FIRST? ---

A. SHAFT

B. ENDS

C. REGROWTH

****

PAGE 10

	ANSWERS	PAGE REF.
1	B	3
2	A	3
3	B	5
4	C	5

GLOSSARY

ABRASIONS

a bra sions

A place where the skin surface has been rubbed or scraped off.

There were many abrasions on the patron's scalp that prevented her from getting a cold wave.

CROWN

crown

The top part of the head.

The crown section should never be thinned.

FRONT HAIRLINE

front hair line

Where the hair begins to grow around the top and sides of the face.

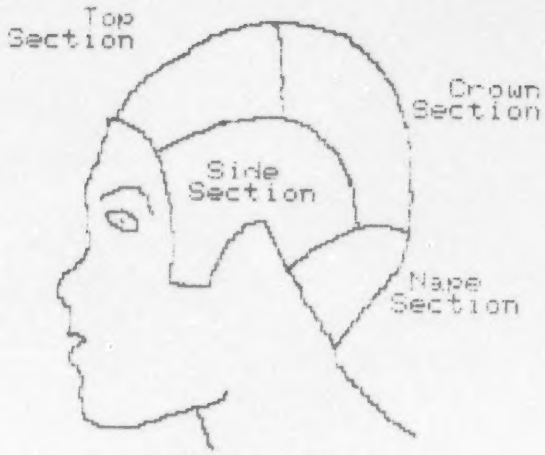
You should never thin the crown or the front hairline.

NAPE OF THE NECK

nape of the neck

Where the hair begins to grow at the back of the neck.

It's always good to start a haircut at the nape of the neck.



SECTIONING

NEW GROWTH

new growth

The new hair that grows out from the scalp every month.

The new growth of hair on the head averages a quarter of an inch monthly.

PROCEDURE

pro ce dure

A method or manner in which to do things.

When doing a permanent wave, it's very important to follow the manufacturer's procedures as listed on the label.

REGROWTH

re growth

The new growth of hair that shows every month if the hair is tinted.

The regrowth will be the original hair color.

RETOUCH

re touch

The application of hair color, lightener or chemical hair relaxer to new growth of hair to make it the same color as the older hair.

A retouch was needed on Becky's hair to cover the visible gray regrowth.

430

STRAND TEST

strand test

Given to determine the
patron's color selection.

A strand test should be
given prior to any
color application.

9

Skin and Scalp

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

NERVES IN THE SKIN

VOCABULARY:

NERVE FIBERS

MOTOR NERVE FIBERS

DISTRIBUTED

ARRECTOR PILI MUSCLE

HAIR FOLLICLE

SENSORY NERVE FIBER

TOUCH RECEPTOR

PAPILLARY LAYER

PAGE 3

VOCABULARY: (CONTINUED)

DERMIS LAYER

ACTIVATED

IMPULSE

VIA

NERVE ENDINGS

SENSATION

PLENTIFUL

PAIN RECEPTOR

PRESSURE RECEPTOR

COLD RECEPTOR

****

PAGE 4

VOCABULARY: (CONTINUED)

HEAT RECEPTOR

SECRETORY NERVE FIBERS

SWEAT GLAND

WASTE MATERIALS

DUCT

FUNDUS (WINDING BASE)

OIL GLAND

SECRETE

LUBRICATE

484

PAGE 5

THE SKIN CONTAINS THREE TYPES OF NERVE FIBERS.

1. MOTOR NERVE FIBERS:

   ARE DISTRIBUTED TO THE ARRECTOR PILI MUSCLE ATTACHED TO THE HAIR FOLLICLES.

2. SENSORY NERVE FIBERS:

   MAKE REACTIONS TO HEAT, COLD, PAIN, PRESSURE AND TOUCH POSSIBLE.

3. SECRETORY NERVE FIBERS:

   ARE LOCATED IN SWEAT AND OIL GLANDS.

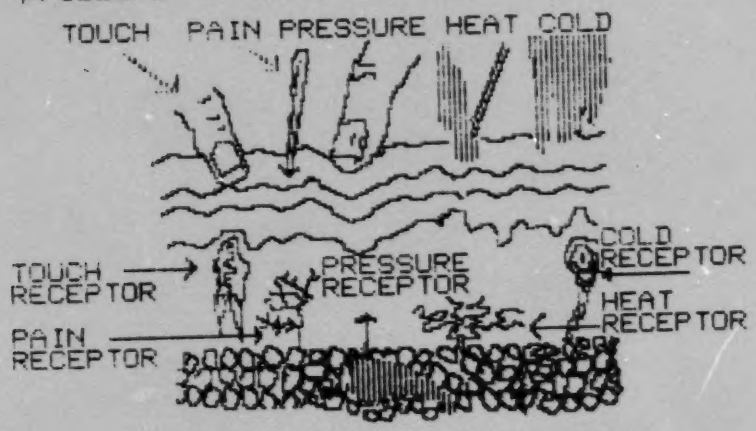
****

PAGE 6

WHEN SOMEONE TOUCHES YOU, A TOUCH RECEPTOR IN THE PAPILLARY LAYER OF THE DERMIS IS ACTIVATED. IT SENDS AN IMPULSE VIA NERVE ENDINGS TO THE BRAIN. THE BRAIN REGISTERS THE IMPULSE AND YOU "FEEL" THE SENSATION OF SOMEONE TOUCHING YOU. NERVE ENDINGS ARE MOST PLENTIFUL IN THE FINGERTIPS.

PAGE 7
FIGURE 1

Nerves in the papillary layer register the sensation of pain, heat, cold and pressure in the same manner.



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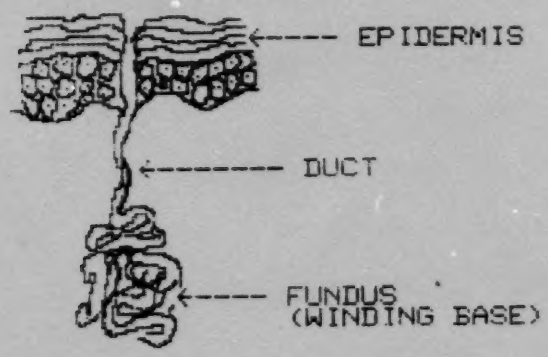
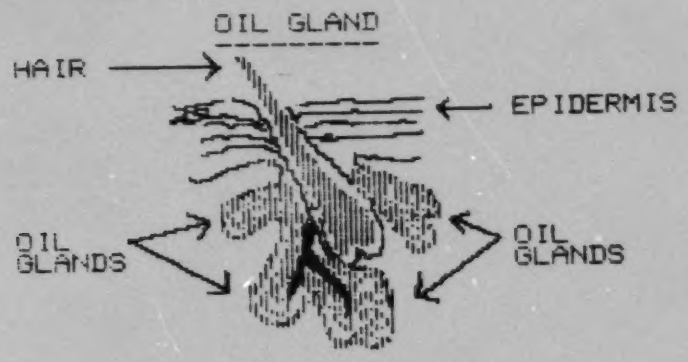
PAGE 8
FIGURE 2

Secretory nerve fibers are found in sweat and oil glands. Sweat glands excrete sweat, they release, or give off, waste materials unwanted by the body.



PAGE 9
FIGURE 3

Oil glands produce and secrete oil used to soften and lubricate the skin and scalp.



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PAGE 10

1. A RECEPTOR IS A GROUP OF CELLS, OR ONE CELL, THAT RECEIVES A STIMULUS OR A SENSATION. A TOUCH, PAIN, PRESSURE, HEAT OR COLD RECEPTOR IS ASSOCIATED WITH ----- NERVE FIBERS.

   A. MOTOR

   B. SENSORY

   C. SECRETORY

PAGE 11

2. SECRETORY NERVE FIBERS CAN BE FOUND IN THE PARTS OF THE SKIN WHICH EXCRETE OR SECRETE A SUBSTANCE. SECRETORY NERVE FIBERS MAY BE FOUND IN -----.

A. A COLD RECEPTOR

B. THE ARRECTOR PILI MUSCLE

C. SWEAT AND OIL GLANDS

****

PAGE 12

3. RECEPTORS ARE FOUND IN THE --- LAYER OF THE DERMIS.

A. PAPILLARY

B. RETICULAR

C. STRATUM LUCIDUM

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PAGE 13

4. NERVE ENDINGS ARE MOST ABUNDANT IN THE ----.

A. PALMS OF THE HAND

B. FEET

C. FINGERTIPS

****

PAGE 14

	ANSWERS	PAGE REF.
1	B	5
2	C	8
3	A	7
4	C	6

****

NERVES IN THE SKIN

FOOTNOTES

PAGE 5
REPRINTED FROM THE STANDARD TEXTBOOK OF COSMETOLOGY BY PERMISSION OF MILADY PUBLISHING CORPORATION,P.364.

PAGE 7
IBID.

PAGE 8
IBID.,P.365.

PAGE 9
IBID.

490

GLOSSARY

ACTIVATED

ac ti vat ed

Spurred into action.

The bomb was activated only seconds after the general's orders.

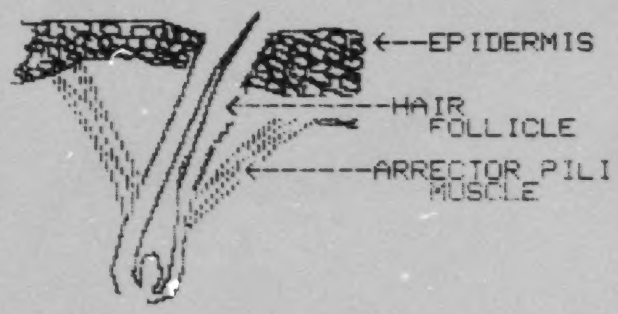
ARRECTOR PILI MUSCLE

ar rec tor pi li mus cle

The involuntary muscles connected to the hair follicle.

The arrector pili muscle causes "goose bumps."

The arrector pili is a muscle attached to the hair follicle. Fear or cold contracts the muscle which causes goose bumps.



COLD RECEPTOR

cold re cep tor

This sends impulses to the brain when the body feels cold.

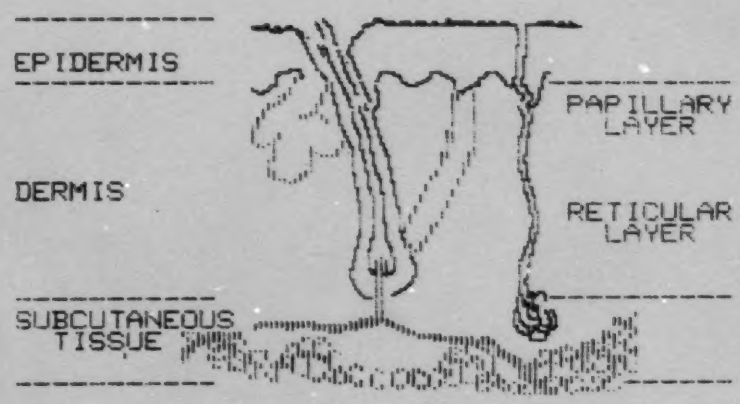
The brain was sent impulses by way of the cold receptor.

DERMIS LAYER

der mis lay er

The corium, or the true skin.

The dermis contains many blood vessels.



DISTRIBUTED

dis trib ut ed

Spread out or divided.
among many.

The teacher distributed the school books among the students.

DUCT

duct

A tube or channel used for transporting fluids.

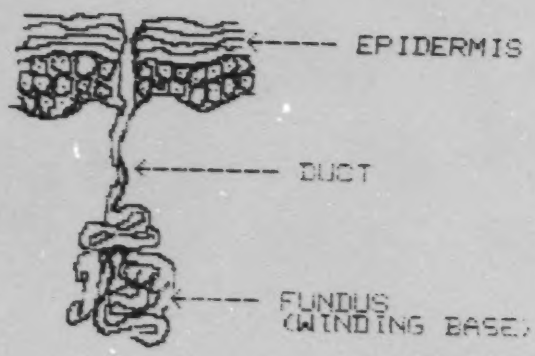
The oil duct transports sebum.

FUNDUS

fun dus

A tube-like duct which terminates at the skin surface to form a sweat pore.

The fundus is the winding coil at the base of the gland.



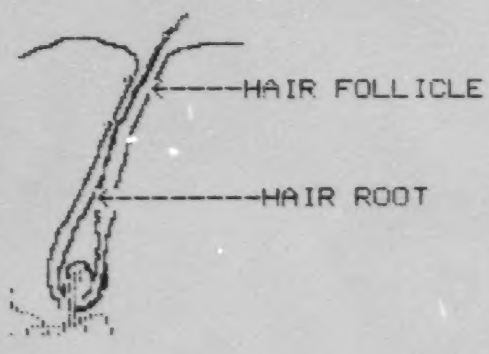
HAIR FOLLICLE

hair fol li cle

The depression of the skin containing the root of the hair.

There are millions of hair follicles on the skin's surface.

The hair follicle is the pocket of skin around the hair root. Every hair has a hair follicle. It is a tube-like inversion of the skin through which the hair reaches the surface of the skin.



HEAT RECEPTOR

heat re cep tor

This sends impulses to the brain when heat is felt on the body.

The boy's heat receptors sent impulses to his brain when he walked near the fireplace.

IMPULSE

in pulse

A force that starts a body
in motion.

The brain was sent an impulse
when the boy touched the hot stove.

LUBRICATE

lu bri cate

To make smooth or slippery.

Oil glands produce and secrete oil used
to soften and lubricate the skin and scalp.

MOTOR NERVE FIBERS

Mo tor nerve fi bers

Fibers which are distributed
to the arrector pili muscle.

Motor nerve fibers are involuntary
muscle fibers which are attached
to the base of the hair follicle.

NERVE ENDINGS

nerve end ings

These carry nerve impulses
to the brain.

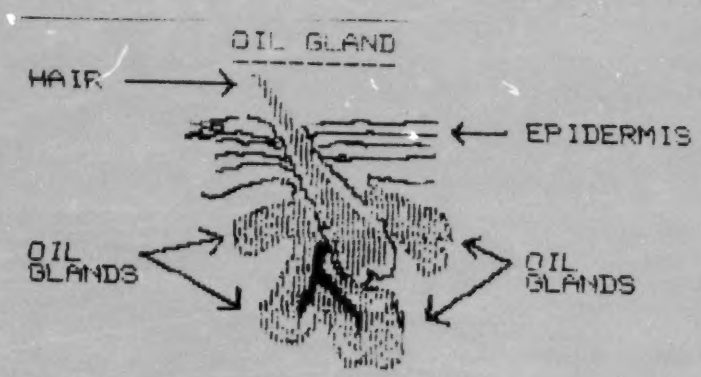
When the boy was burned, impulses
were carried to the brain by way
of nerve endings.

OIL GLAND

oil gland

Produces and secretes oil.

Oil glands secret oil that is
necessary for the lubrication
of the skin and scalp.



PAIN RECEPTOR

pain re cep tor

It sends impulses to the brain when pain is inflicted.

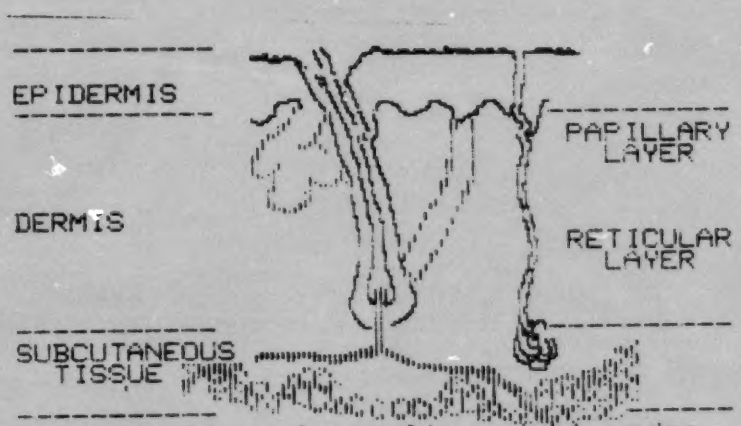
The body contains many pain receptors.

PAPILLARY LAYER

pap il lar y lay er

The outer layer of the skin.

The papillary layer contains touch receptors.



The papillary layer lies right under the epidermis. It contains capillaries and nerve fiber endings called tactile corpuscles. Melanin (skin coloring) is also in this layer.

PLENTIFUL

plen ti ful

Containing or yielding plenty.

A plentiful amount of blood vessels can be found in the derma skin layer.

PRESSURE RECEPTOR

pres sure re cep tor

This sends impulses to the brain when pressure is felt.

The body has many pressure receptors which carry impulses to the brain when pressure is inflicted on the body.

SECRETE

se crete

To produce and give off.

The sebaceous glands secrete sebum.

SECRETORY NERVE FIBERS

se cre to ry nerve fi bers

Fibers which are found in the sweat and oil glands which secrete oil and sweat.

The secretory nerve fibers can be found anywhere on the body which excrete or secrete a substance.

SENSATION

sen sa tion

Awareness, or a mental process due to stimulation of a sense organ.

The man felt a burning sensation when he drank the hot coffee.

SENSORY NERVE FIBER

sen sor y nerve fi ber

They make reactions to heat, cold, pain, pressure and touch possible.

Sensory nerve fibers carry nerve sensations.

SWEAT GLAND

sweat gland

Excretes sweat or unwanted materials from the body.

Sweat is excreted from the sweat gland.

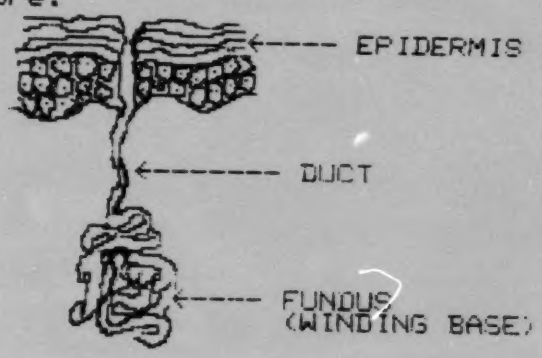
TOUCH RECEPTORS

touch re cep tors

This sends impulses to the brain when you are touched.

The fingertips contain many touch receptors.

The sudoriferous or sweat gland excretes sweat. The sweat gland is composed of a coiled base called the fundus and a pipe-like duct beginning in the dermis skin layer which opens onto the skin surface to form a sweat pore.



VIA

vi a

By way of.

Nerve impulses are sent <u>via</u> nerve endings to the brain.

WASTE MATERIALS

waste ma te ri als

Materials that are unwanted and are given off by the body.

Perspiration is a <u>waste material</u> that our bodies give off.

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

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KATHY FINNERTY

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MARY KAY MCGIFF

****

SKIN AND SCALP
EPIDERMIS AND DERMIS

VOCABULARY:

NOURISHED

LYMPH CIRCULATION

EPIDERMIS

PROTECTIVE

NERVE ENDINGS

CUTICLE

SCARF SKIN

ACCOMMODATE

PAGE 3

VOCABULARY: (CONTINUED)

STRATUM CORNEUM

COMPRISED

SCALE-LIKE CELLS

VISIBLE

STRATUM LUCIDUM

TRANSPARENT

STRATUM GRANULOSUM

GRANULES

STRATUM GERMINATIVUM

****

PAGE 4

VOCABULARY: (CONTINUED)

COMPOSED

MELANIN

DESTRUCTIVE

ULTRA-VIOLET LAMP

DERMIS

SENSITIVE

PAPILLARY LAYER

SUPERFICIAL LAYER

CAPILLARIES 498

PAGE 5

VOCABULARY: (CONTINUED)

TACTILE CORPUSCLES

RETICULAR LAYER

UNDERLYING LAYER

FAT CELLS

BLOOD VESSELS

SWEAT GLANDS

OIL GLANDS

HAIR FOLLICLES

ARRECTOR PILI MUSCLES

****

PAGE 6

VOCABULARY: (CONTINUED)

SUBCUTANEOUS TISSUE

ADIPOSE LAYER

SUBCUTIS LAYER

PAGE 7

THE SKIN IS NOURISHED BY THE BLOOD AND LYMPH CIRCULATION. THE SKIN COLOR DEPENDS PARTLY UPON THE BLOOD SUPPLY TO THE SKIN. THE GREATER THE BLOOD FLOW, THE DARKER THE SKIN COLOR. THE MAJOR DETERMINER OF SKIN COLOR, HOWEVER, IS THE MELANIN, OR COLORING MATTER, IN THE EPIDERMIS AND DERMIS LAYERS.

****

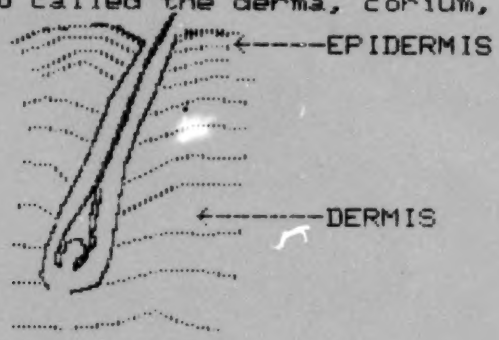
PAGE 8

THE SKIN HAS MANY THICKNESSES. THE SKIN IS VERY THIN ON THE EYELIDS AND VERY THICK ON THE SOLES OF THE FEET. THE SKIN ON THE SCALP IS THE SAME AS THE SKIN ON THE REST OF THE BODY. HOWEVER, THE SCALP HAS LARGER AND DEEPER HAIR FOLLICLES TO ACCOMMODATE THE LONGER HAIR ON THE HEAD. THE SKIN HAS TWO LAYERS: THE EPIDERMIS AND DERMIS.

500

PAGE 9
FIGURE 1

The epidermis, or outer layer, forms the protective covering of the skin. It contains no blood vessels but has many small nerve endings. It may also be called the cuticle or scarf skin. The dermis is a very sensitive layer of skin below the protective epidermis. It is also called the derma, corium, or cutis.



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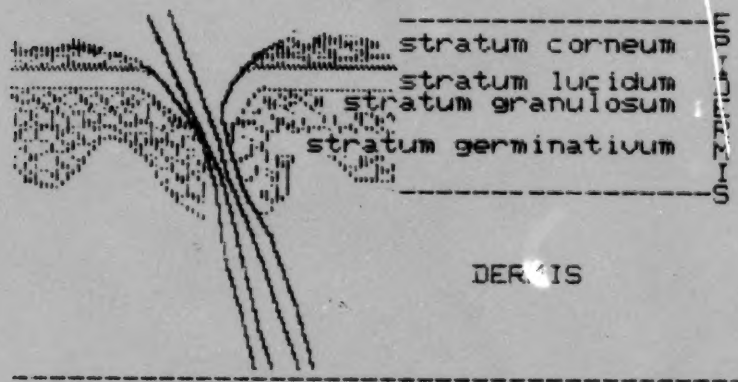
PAGE 10

THE EPIDERMIS IS THE OUTER COVERING OF THE SKIN USED FOR PROTECTION. IT IS COMPOSED OF FOUR TISSUE LAYERS.

PAGE 11
FIGURE 2

The epidermis contains the following layers: stratum corneum, stratum lucidum, stratum granulosum and stratum germinativum.



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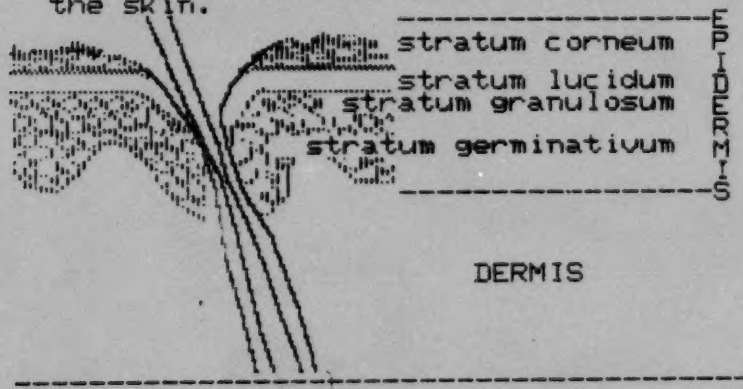
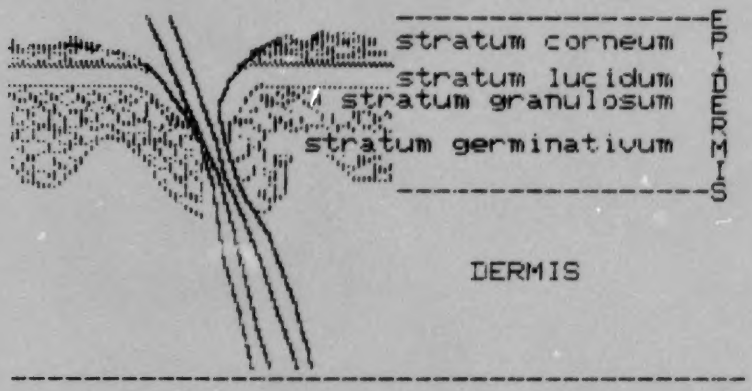
PAGE 12
FIGURE 3

The stratum corneum is comprised of scale-like cells tightly packed. They are continually being shed and replaced. This layer is the visible layer seen by the eye as you look at the skin.



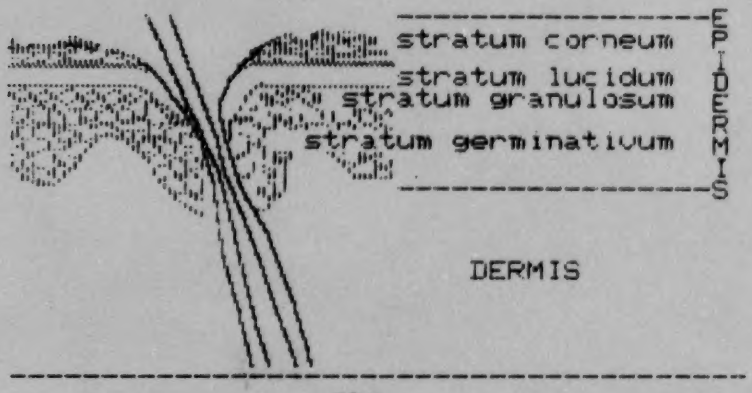
PAGE 13
FIGURE 4

The stratum lucidum is a clear layer. It is made up of transparent cells through which light can pass.

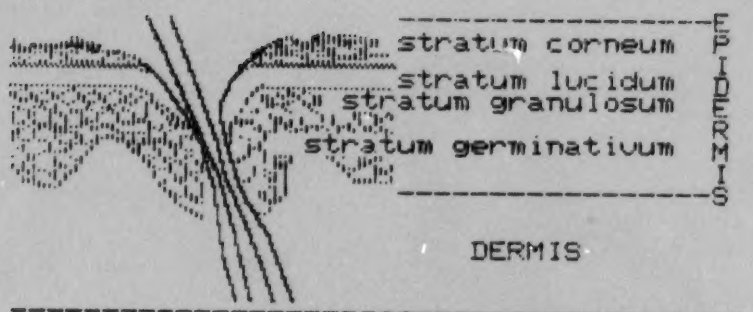


PAGE 14
FIGURE 5

The stratum granulosum consists of cells which look like tiny granules.



PAGE 15
FIGURE 6



The stratum germinativum is composed of several layers of cells. This layer contains melanin -the skin coloring-, which protects the layers of the dermis from the potentially destructive effects of the sun or an ultra-violet lamp.

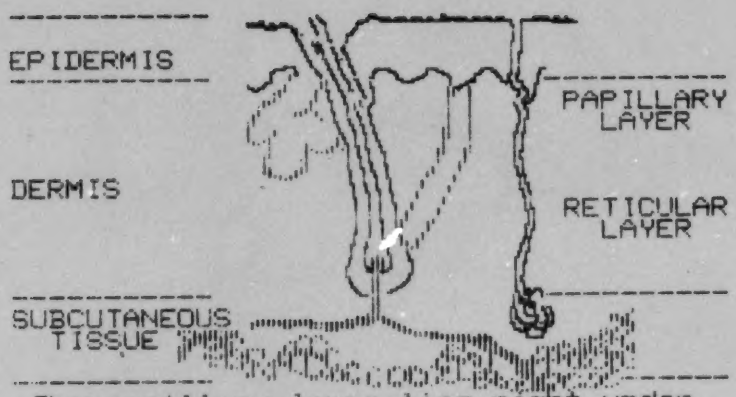
****

PAGE 16

THE DERMIS IS A VERY SENSITIVE LAYER OF SKIN BELOW THE PROTECTIVE EPIDERMIS LAYER. THE DERMIS CONTAINS BLOOD VESSELS, NERVES, SWEAT GLANDS, OIL GLANDS, HAIR FOLLICLES AND ARRECTOR PILI MUSCLES. THE DERMIS IS DIVIDED INTO TWO LAYERS:

1. THE PAPILLARY (OR SUPERFICIAL LAYER), AND
2. THE RETICULAR (OR UNDERLYING LAYER).

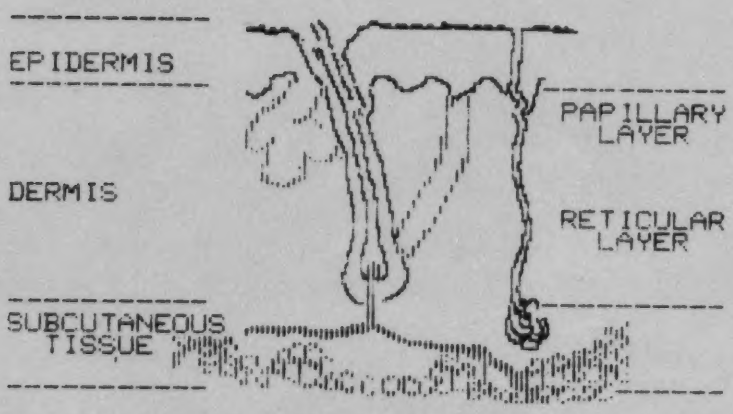
PAGE 17
FIGURE 7



The papillary layer lies right under the epidermis. It contains capillaries and nerve fiber endings called tactile corpuscles. Melanin (skin coloring) is also in this layer.

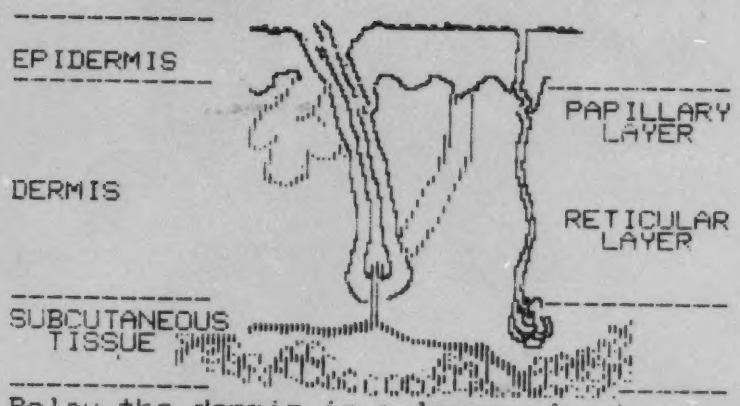
****

PAGE 18
FIGURE 8



The reticular layer contains some fat cells, blood vessels, oil glands, sweat glands, hair follicles, and the arrector pili muscles.

PAGE 19
FIGURE 9



Below the dermis is a layer of subcutaneous tissue (adipose or subcutis). This fatty tissue layer contains fats used by the body as energy. This layer varies in thickness.

****

PAGE 20

1. THE TWO LAYERS OF SKIN ARE THE

-----.

A. DERMIS AND EPIDERMIS

B. DERMA AND CORIUM

C. CUTIS AND DERMIS

D. CUTICLE AND DERMIS

506

PAGE 21

2. WHICH OF THE FOLLOWING WORDS IS <u>NOT</u> ANOTHER NAME FOR THE DERMIS LAYER OF SKIN? ---

A. DERMA

B. CUTICLE

C. CORIUM

D. CUTIS

****

PAGE 22

3. THE LAYER OF EPIDERMIS VISIBLE TO THE EYE IS THE -----.

A. STRATUM CORNEUM

B. STRATUM LUCIDUM

C. STRATUM GRANULOSUM

D. STRATUM GERMINATIVUM

PAGE 23

4. MELANIN IS FOUND IN THE -----
LAYER OF THE EPIDERMIS.

A. STRATUM CORNEUM

B. STRATUM LUCIDUM

C. STRATUM GRANULOSUM

D. STRATUM GERMINATIVUM

****

PAGE 24

5. THE CLEAR LAYER COMPOSED OF
TRANSPARENT CELLS IS THE -----.

A. STRATUM CORNEUM

B. STRATUM LUCIDUM

C. STRATUM GRANULOSUM

D. STRATUM GERMINATIVUM

PAGE 25

6. WHICH OF THE FOLLOWING LAYERS IS NOT PART OF THE DERMIS? ---

A. PAPILLARY LAYER

B. RETICULAR LAYER

C. MELANIN LAYER

D. SUPERFICIAL LAYER

****

PAGE 26

7. THE RETICULAR LAYER OF SKIN CONTAINS -----.

A. FAT CELLS

B. BLOOD VESSELS

C. OIL GLANDS

D. ALL OF THE ABOVE

PAGE 27

	ANSWERS	PAGE REF.
1	A	8
2	B	9
3	A	12
4	D	15
5	B	13
6	C	16
7	D	18

SKIN AND SCALP

EPIDERMIS AND DERMIS

FOOTNOTES

PAGE 8
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PAGE 15
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IBID.

PAGE 17
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PAGE 18
IBID.

PAGE 19
IBID.

GLOSSARY

ACCOMMODATE

ac com mo date

To make or have room for.

Most hotels can accommodate a large number of people.

ADIPOSE LAYER

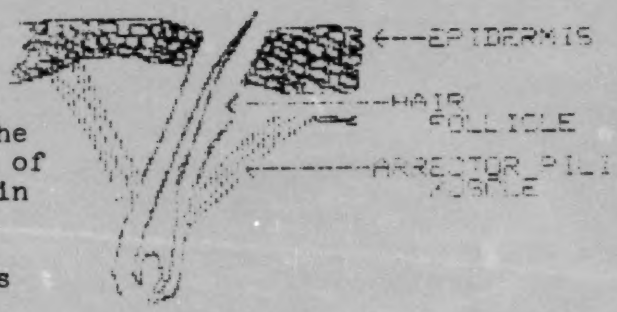
ad i pose lay er

Fatty tissue.

Many overweight people have a thick layer of adipose tissue.

ARRECTOR PILI MUSCLES

ar rec tor pi li mus cles



Small involuntary muscle fibers in the skin; they are connected at the base of the hair follicle; they cause the skin to react to cold or fear.

John's goose bumps were caused by his arrector pili muscles.

BLOOD VESSELS

blood ves sels

An artery, vein or capillary; a passageway for blood circulation.

The epidermis contains no blood vessels.

CAPILLARIES

cap il lar ies

Small blood vessels which connect the arteries and veins.

Gary bruises easily because his capillaries are weak.

COMPOSED

com posed

Calm; self-possessed.

She was composed as she stood in front of the class.

COMPRISED

com prised

To be made up of; to include within.

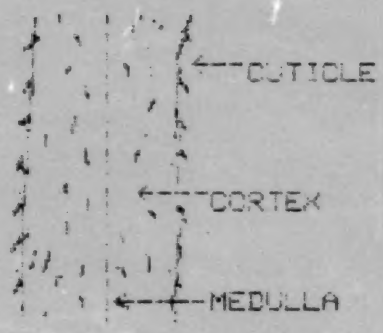
The Cosmetology textbook is comprised of twenty chapters and four hundred and ninety-four pages.

CUTICLE

cu ti cle

The outer layer of the skin or hair.

When you do a manicure, the cuticle of the nail should always be pushed back.

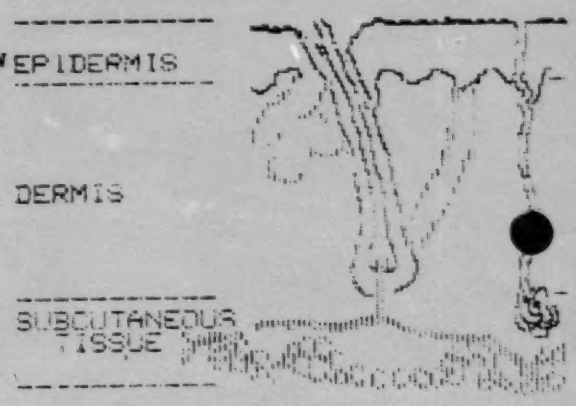


DERMIS

der mis

The second layer of skin, directly below the epidermis.

How many layers of skin are there above the dermis?



DESTRUCTIVE

de struc tive

Tending to destroy; causing destruction or much damage.

Pathogenic bacteria are destructive.

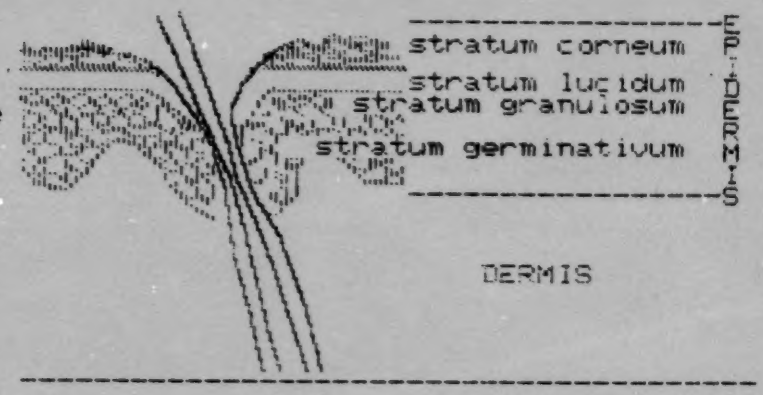
EPIDERMIS

ep i der mis

The outermost layer of the skin; commonly called cuticle or scarf skin.

The epidermis contains no blood vessels, but has many nerve endings.

The epidermis contains the following layers: stratum corneum, stratum lucidum, stratum granulosum and stratum germinativum.



FAT CELLS

fat cells

A microscopic cell that contains greasy or oily matter.

An overweight woman has a great number of fat cells.

GRANULES

gran ules

A small grain or particle.

As the bag tipped over, the granules of sugar spilled onto the floor.

HAIR FOLLICLES

hair fol li cles

Depressions in the skin containing the root of the hair.

A person has millions of hair follicles on his entire body.

The hair generally has one of three shapes. As the hair grows it assumes the direction, the size, and the shape of the hair follicle. If you look at the hair follicle under the microscope, you would see these three shapes.

LYMPH CIRCULATION

lymph cir cu la tion

A pale, colorless fluid that circulates and bathes the cells of the body; lymph cells consist of white blood cells and a liquid portion resembling blood plasma.

A good massage increases the lymph circulation.

MELANIN

mel a nin

The pigment in the skin, hair and eyes.

The cortex layer of the hair contains melanin.

NERVE ENDINGS

nerve end ings

Supply sensations, such as touch, pain, heat, cold, pressure and touch.

Nerve endings are found in the papillary layer of the skin.

NOURISH

nour ish

To promote the growth or development of.

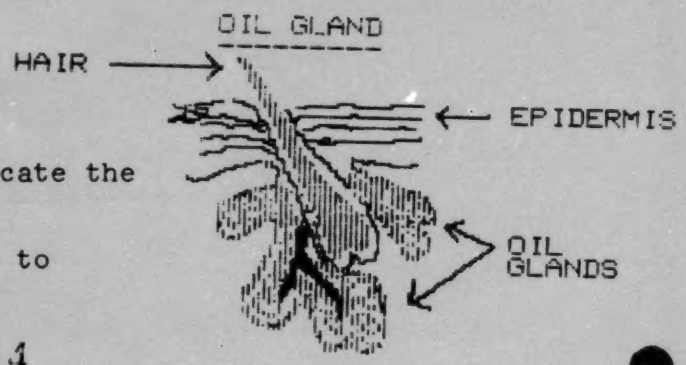
Rain is needed to nourish plants.

OIL GLANDS

oil glands

Oil glands secrete sebum to lubricate the skin.

The oil glands are often regerred to as the sebaceous glands.

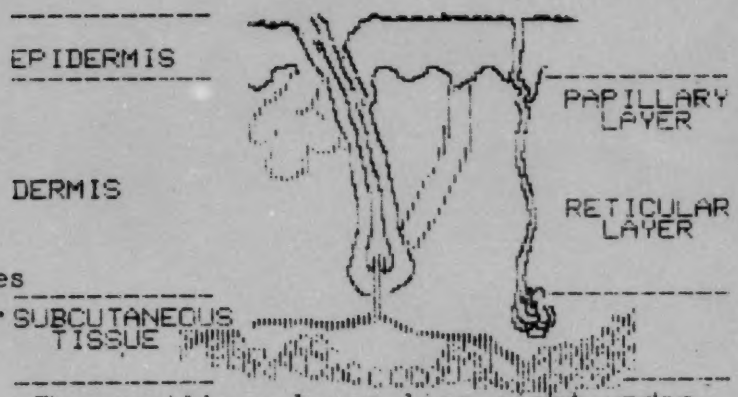


PAPILLARY LAYER

pap il lar y lay er

The outer layer of the dermis.

The papillary layer of skin lies directly beneath the epidermis.



The papillary layer lies right under the epidermis. It contains capillaries and nerve fiber endings called tactile corpuscles. Melanin (skin coloring) is also in this layer.

PROTECTIVE

pro tec tive

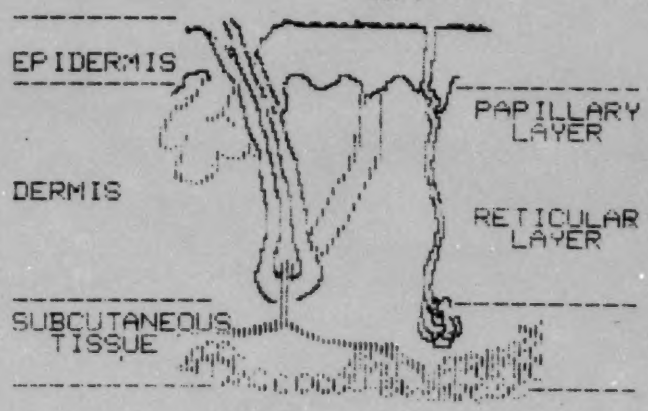
To cover or defend from injury or destruction.

It is a good idea to use a protective sun screen while you are sunbathing.

RETICULAR LAYER

re ti cu lar lay er

The reticular layer contains fat cells, blood vessels, oil glands, hair follicles, sweat glands, lymph vessels and arrector pili muscles.



SCALE-LIKE CELLS

scale - like cells

Thin layer of cells.

The skin is constantly shedding and replacing many scale-like cells.

SCARF SKIN

scarf skin

Another name for cuticle or epidermis.

The scarf skin serves as the protective layer of skin.

SENSITIVE

sen si tive

Easily or strongly affected or hurt.

The skin is sensitive to heat.

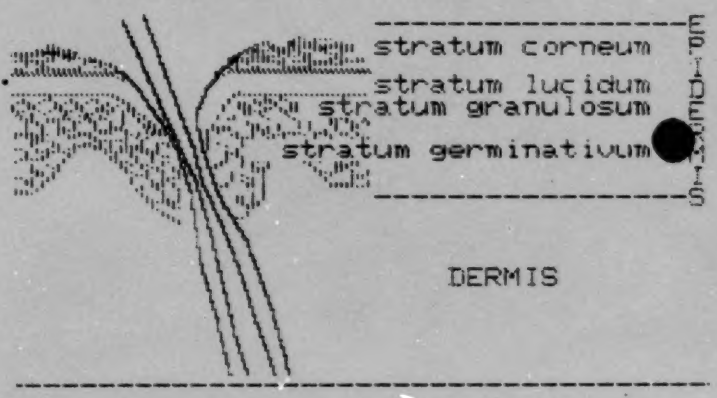
The epidermis contains the following layers: stratum corneum, stratum lucidum, stratum granulosum and stratum germinativum.

STRATUM CORNEUM

stra tum cor ne um

The horny layer of the epidermis.

The stratum corneum consists of tightly-packed, scale-like cells which are constantly being shed.



STRATUM GERMINATUM

stra tum ger min a tum

Composed of several layers of different shaped cells, it's responsible for the growth of the epidermis; it contains melanin.

The stratum germinatum protects sensitive cells from ultra-violet rays of the sun.

STRATUM GRANULOSUM

stra tum gran u lo sum

The thin layer of epidermis between the stratum lucidum, stratum germinativum and the stratum lucidum. It consists of cells which look like distinct granules.

The stratum granulosum is one layer of the epidermis.

STRATUM LUCIDUM

stra tum lu ci dum

A clear layer that consists of small transparent cells in which light can pass.

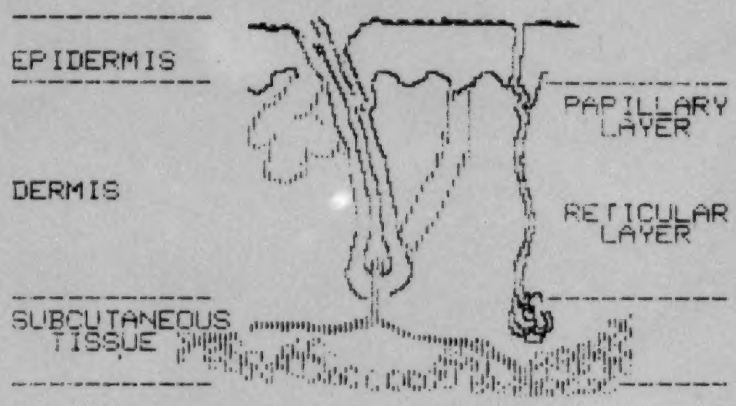
The stratum lucidum is the clear layer of the epidermis.

SUBCUTANEOUS TISSUE

sub cu ta ne ous tis sue

A layer of fatty tissue found below the dermis.

Inside the subcutaneous tissue, circulation is maintained by a network of arteries.



SUBCUTIS LAYER

sub cu tis lay er

A layer of fatty tissue.

Another name for the subcutis layer is the adipose layer.

SUPERFICIAL LAYER

su per fi cial lay er

Another name for the papillary layer.

The dermis consists of two layers: the papillary or superficial layer and the reticular layer.

SWEAT GLANDS

sweat glands

Glands that secrete or produce sweat.

The sweat glands are also called the sudoriferous glands.

TACTILE CORPUSCLES

tac tile cor pus cles

The nerve endings that are found within the skin; they cause the feeling or sense of touch.

If you didn't have any tactile corpuscles your sense of touch would not exist.

TRANSPARENT

trans par ent

Sheer enough to be seen through; thin enough to be seen through.

The window is transparent.

ULTRA-VIOLET LAMP

Ul tra - vi o let lamp

A lamp with invisible rays which are given off by a heat source such as a sun lamp, or the sun.

Ultra-violet lamps are used to increase the circulation of the blood.

VISIBLE

vis i ble

Capable of being seen.

The license plate number was visible as the streelight shown down on the car.

PAGE 1

SWEAT AND OIL GLANDS

DUCT GLAND

PASSAGEWAY

SUBSTANCE

DERMIS LAYER

SUDORIFEROUS GLAND

SWEAT GLAND

EXCRETES

FUNDUS

SWEAT PORE

****

PAGE 2

VOCABULARY: (CONTINUED)

REGULATE

SEBACEOUS GLAND

OIL GLAND

HAIR FOLLICLE

SECRETES

SEBUM

LUBRICATES

ACCUMULATION

CLOGS

BLACKHEADS

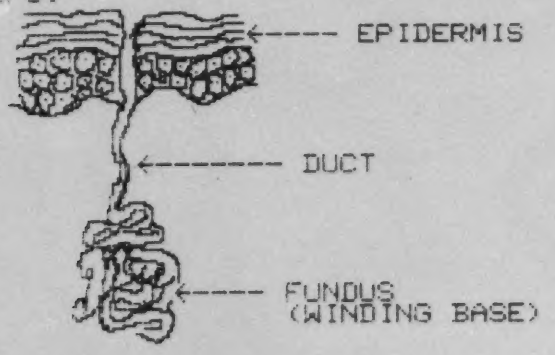
PAGE 3

A DUCT GLAND IS A GLAND WITH A TUBE-LIKE PASSAGEWAY THAT CARRIES A SUBSTANCE TO THE SKIN SURFACE FROM THE UNDERLYING DERMIS LAYER. THE SKIN CONTAINS TWO TYPES OF DUCT GLANDS.

****

PAGE 4
FIGURE 1

The sudoriferous or sweat gland excretes sweat. The sweat gland is composed of a coiled base called the fundus and a pipe-like duct beginning in the dermis skin layer which opens onto the skin surface to form a sweat pore.

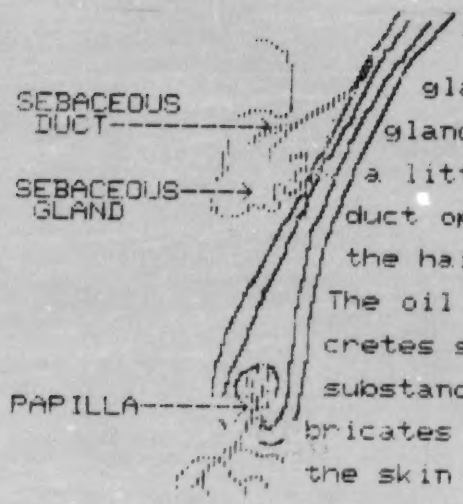


PAGE 5

SWEAT GLANDS ARE MOST NUMEROUS UNDER THE ARMPITS, ON THE FOREHEAD, AND THE PALM OF THE HAND. SWEAT GLANDS HELP RID THE BODY OF UNWANTED WASTES, AND ALSO HELP TO MAINTAIN AND REGULATE BODY TEMPERATURE.

****

PAGE 6
FIGURE 2



The sebaceous gland or oil gland consists of a little bag and a duct opening into the hair follicle. The oil gland secretes sebum, an oily substance which lubricates and softens the skin and hair.

PAGE 7

A LARGE NUMBER OF OIL GLANDS ARE FOUND ON THE FACE AND SCALP. WHEN AN ACCUMULATION OF SEBUM CLOGS THE DUCT, A BLACKHEAD IS FORMED.

****

PAGE 8

1. THE FUNDUS IS THE COILED BASE OF THE ----- GLAND.

   A. SUDORIFEROUS

   B. SEBACEOUS

   C. SEBUM

PAGE 9

2. ----- IS THE OILY LIQUID PRODUCED BY THE SEBACEOUS GLAND.

A. SWEAT

B. DUCT

C. SEBUM

****

PAGE 10

3. A DUCT IS A TUBE-LIKE PASSAGEWAY. -----

A. TRUE

B. FALSE

PAGE 11

4. A SWEAT PORE IS LOCATED -----.

A. ON THE SKIN SURFACE

B. IN THE DERMIS LAYER

C. IN THE EPIDERMIS LAYER

****

PAGE 12

	ANSWERS	PAGE REF.
1	A	4
2	C	6
3	A	3
4	A	4

****

SWEAT AND OIL GLANDS

FOOTNOTES

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PAGE 5
IBID.

PAGE 6
IBID.,P.378.

GLOSSARY

ACCUMULATE

ac cu mu late

To pile up; to increase in number.

She had put off her work for so long that it began to accumulate on her desk.

BLACKHEADS

black heads

A small oily plug blocking the duct of a fat-secreting gland in the skin.

Blackheads are commonly due to an improper diet consisting of too much starch and oily food.

CLOGS

clogs

To block off, or block.

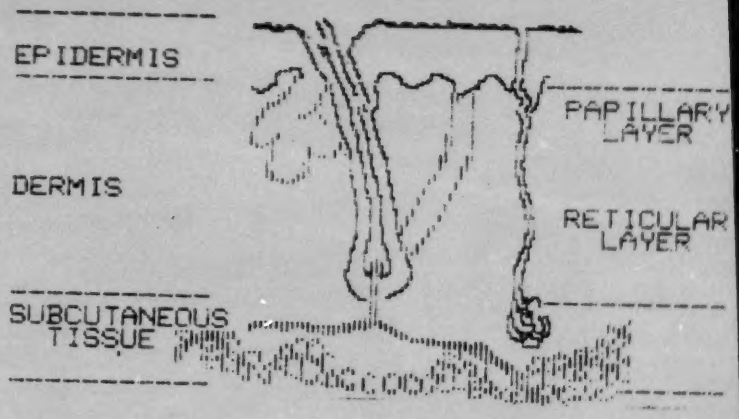
When a pore becomes clogged, it may cause a pimple.

DUCT GLAND

duct gland

This type of gland extracts materials from the blood to form new substances. This gland also excretes or secretes substances to the skin surface by way of a duct or passageway.

The sudoriferous and sebaceous glands are considered to be duct glands.



DERMIS LAYER

der mis lay er

Also called the true skin; it is found below the epidermis.

The dermis layer of skin contains blood vessels, nerves, sweat and oil glands, lymph vessels and arrector pili muscles.

EXCRETE

ex crete

To separate and eliminate waste from the blood or tissues.

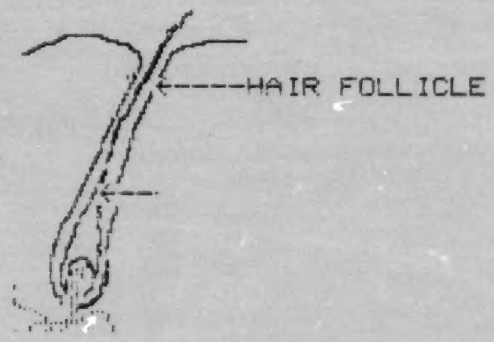
The sweat glands excrete sweat.

HAIR FOLLICLE

hair fol li cle

The depression of the skin containing the root of the hair.

The hair follicle is the pocket of skin surrounding the hair shaft below the skin.



LUBRICATE

lu bri cate

To make smooth or slippery.

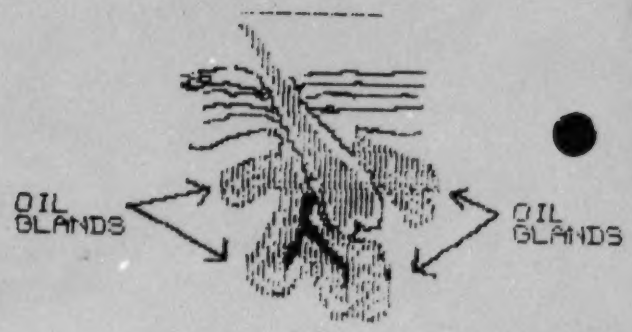
There are many types of setting gels that lubricate the hair for easier styling.

OIL GLAND

oil gland

Also called the sebaceous gland.

The oil glands in the body help to keep the skin lubricated.



PASSAGEWAY

pas sage way

A pass, channel or course in which something can follow.

The boys discovered the passageway leading to the dungeons in the old house.

REGULATE

reg u late

To direct or bring under the control of.

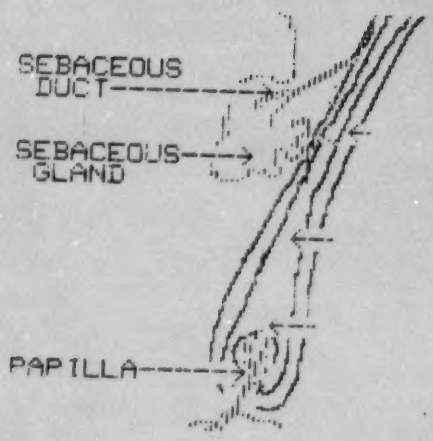
The oxygen tent helped to regulate the patient's breathing.

SEBACEOUS GLAND

se ba ceous gland

An oil gland of the skin.

In some people, an overactive sebaceous gland causes health problems.



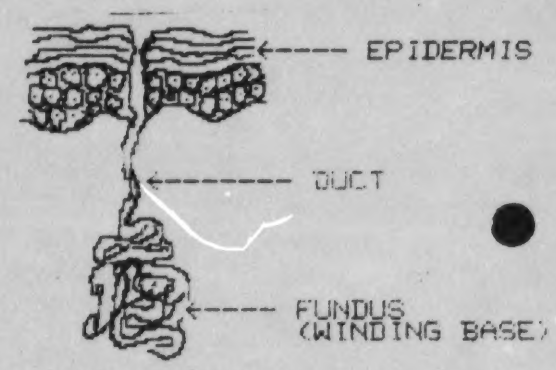
SWEAT GLAND

sweat gland

The gland that excretes perspiration and opens as a small pore on the skin surface.

The sweat gland plays an important part in cooling the body.

528

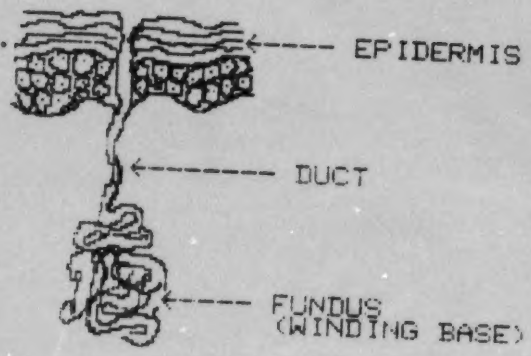


SWEAT PORE

sweat pore

Helps eliminate wastes from the body.

The <u>sweat pores</u> eliminate waste products.



FUNDUS

fun dus

The coil base of a sweat gland.

The sweat gland is composed of a coiled base called the <u>fundus</u> and a pipe-like duct beginning in the dermis skin layer which opens onto the skin surface to form a sweat pore.

10

Trichology

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

PAGE 2

TRICHOLOGY - STUDY OF HAIR

VOCABULARY:

TRICHOLOGY

INJURY

PROTEIN

KERATIN

HAIR ROOT

HAIR SHAFT

PORTION

PAGE 3

TRICHOLOGY IS THE STUDY OF HAIR.

HAIR HAS ONE MAJOR PURPOSE; TO PROTECT THE HEAD FROM HEAT, COLD AND INJURY.

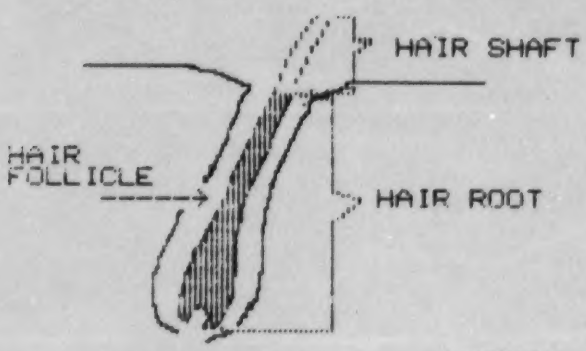
HAIR IS MADE UP OF A PROTEIN CALLED KERATIN. HAIR IS DIVIDED INTO TWO PARTS:

1. THE HAIR SHAFT, AND
2. THE HAIR ROOT.

****

PAGE 4
FIGURE 1

The hair root is the part of the hair below the skin surface. The hair shaft is the portion seen by the eye. It is the part above the skin surface.



PAGE 5

1. TRICHOLOGY IS THE STUDY OF ---.

A. SCALP

B. HAIR

C. SKIN

****

PAGE 6

2. KERATIN IS A -----.

A. PROTEIN

B. MINERAL

C. PERM

PAGE 7

3. THE HAIR ROOT GROWS -----.

A. ABOVE THE SCALP

B. BELOW THE SKIN

C. AROUND THE PAPILLA

****

PAGE 8

4. THE ----- GROWS ABOVE THE SKIN SURFACE.

A. HAIR SHAFT

B. HAIR ROOT

C. PAPILLA

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PAGE 9

	ANSWERS	PAGE REF.
1	B	3
2	A	3
3	B	4
4	A	4

TRICHOLOGY - STUDY OF THE HAIR

FOOTNOTES

PAGE 3
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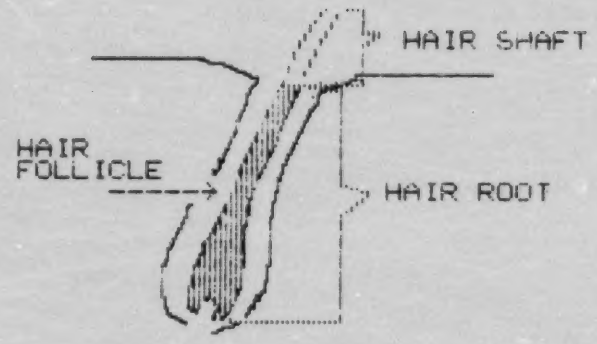
PAGE 4
IBID.,P.378.

TRICHOLOGY - STUDY OF THE HAIR

GLOSSARY

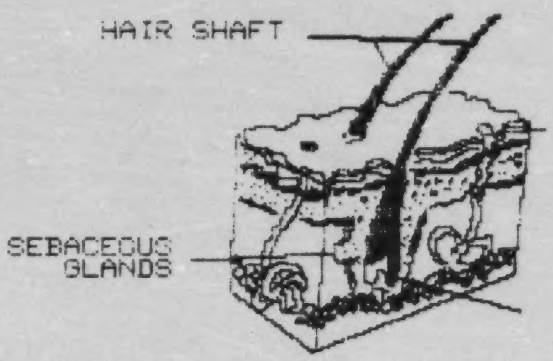


HAIR ROOT

hair root

The part of the hair contained within the hair follicle.

If the hair is pulled out from the hair root, will it grow again?



HAIR SHAFT

hair shaft

The portion of the hair structure extending above the skin.

The hair shaft is visible.

INJURY

in ju ry

The result of a hurt or damage.

The basketball player received an injury to his nose after the ball hit his face.

KERATIN

ker a tin

A fibrous protein that forms the chemical basis of the hair.

The nails and hair are made up of keratin.

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PORTION

por tion

A section or division.

A subsection is a smaller <u>portion</u> of the sectioned hair.

PROTEIN

pro tein

A complex organic substance present in all living tissues, such as the skin, hair and nails.

People should include <u>protein</u> in their diets to stay healthy.

TRICHOLOGY

tri chol o gy

The science that deals with the care of the hair.

I have registered for an advanced course in <u>trichology</u>.

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCGIFF

****

SEBUM

VOCABULARY:

SEBACEOUS GLAND

ENDOCRINE GLAND

SEBUM

SECRETIONS

DERMIS

SEBACEOUS DUCT

HAIR FOLLICLE

PAPILLA

PAGE 3

VOCABULARY: (CONTINUED)

NERVE CELLS

NOURISHMENT

HAIR ROOT

HAIR SHAFT

AFFECTS

PROTEIN

DIET

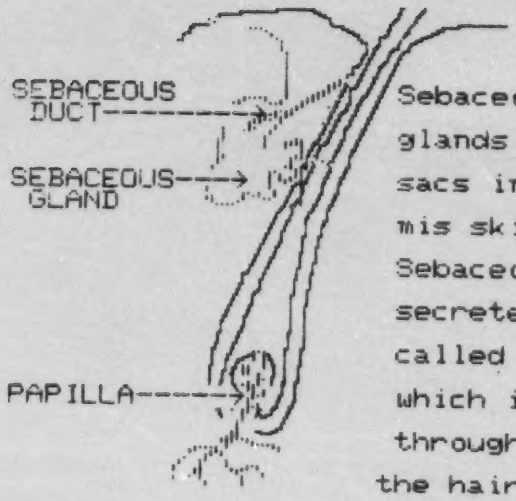
BLOOD CIRCULATION

EMOTIONAL DISTURBANCES

NERVOUS STRESS

****

PAGE 4
FIGURE 1



Sebaceous oil glands are small sacs in the dermis skin layer. Sebaceous glands secrete an oil called sebum, which is carried through a duct to the hair follicle.

PAGE 5

THE AMOUNT OF SEBUM PRODUCED BY THE SEBACEOUS GLAND IS DETERMINED BY THESE FIVE FACTORS:

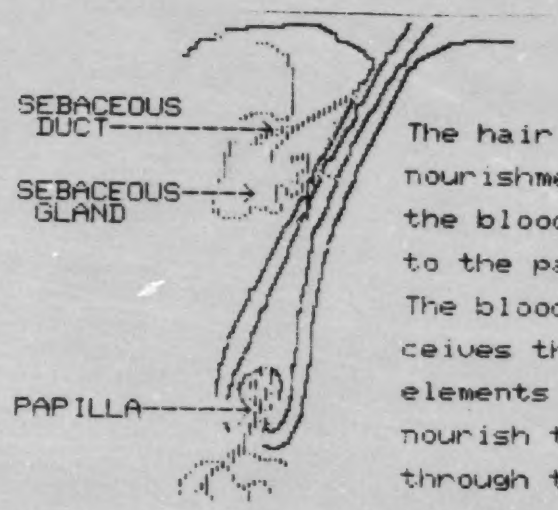
1. DIET,
2. BLOOD CIRCULATION,
3. EMOTIONAL DISTURBANCES,
4. DRUGS; AND,
5. AMOUNT OF SECRETION FROM THE ENDOCRINE GLANDS.

****

PAGE 6

WHAT YOU EAT, YOUR DIET, AFFECTS THE HEALTH OF YOUR HAIR. IT IS BEST TO EAT A WELL-BALANCED DIET RICH IN VEGETABLES AND PROTEIN. SWEETS, FATTY AND STARCHY FOODS CAN CAUSE THE SEBACEOUS GLAND TO SECRETE TOO MUCH SEBUM. LARGE AMOUNTS OF OIL CLOG THE HAIR FOLLICLE, AND CUT OFF NEEDED NOURISHMENT TO THE HAIR SHAFT.

PAGE 7
FIGURE 2



The hair gets nourishment from the blood flowing to the papilla. The blood receives these elements to nourish the hair through the food we eat.

****

PAGE 8

NERVOUS STRESS OR EMOTIONAL DISTURBANCES ALSO AFFECT HEALTHY HAIR. NERVE CELLS CONNECTED TO THE HAIR ROOT BY THE PAPILLA BRING ABOUT CHANGES IN THE HAIR, DEPENDING UPON YOUR EMOTIONAL WELL-BEING. STRESS AND BEING UPSET CAN CAUSE TOO MUCH OIL, WHICH WILL DULL THE SHINE IN YOUR HAIR, AND MAY PRODUCE DANDRUFF.

PAGE 9

ALL ENDOCRINE GLANDS CHANGE AS YOU GROW. THE SEBACEOUS GLAND, BEING AN ENDOCRINE GLAND, DOES ALSO. IN TEENAGE YEARS, THE ENDOCRINE GLANDS BECOME VERY ACTIVE AND PRODUCE MORE OIL; THUS OILY HAIR AND SKIN RESULTS. AS YOU GROW OLDER, LESS OIL IS PRODUCED, SO OLDER PEOPLE USUALLY HAVE DRIER HAIR AND SKIN.

****

PAGE 10

SOME DRUGS TAKEN WITH OR WITHOUT A DOCTOR'S PRESCRIPTION MAY ALSO CAUSE DAMAGE TO THE HAIR.

PAGE 11

1. THE BEST DIET FOR HEALTHY HAIR IS -----.

A. LOTS OF SWEETS AND STARCHES

B. VEGETABLES AND PROTEIN

C. FATTY FOODS AND BREADS

****

PAGE 12

2. DURING THE TEENAGE YEARS THE SEBACEOUS GLANDS ARE -----.

A. VERY ACTIVE

B. SLOWING DOWN PRODUCTION OF OIL (SEBUM)

C. INACTIVE

PAGE 13

3. THE HAIR GETS ITS NOURISHMENT FROM THE BLOOD FLOWING TO THE -----.

A. HAIR SHAFT

B. HAIR FOLLICLE

C. PAPILLA

D. SEBUM

****

PAGE 14

4. STRESS AND EMOTIONAL DISTURBANCES CAN CAUSE -----.

A. TOO MUCH SEBUM TO BE PRODUCED

B. TOO LITTLE SEBUM

C. SEBUM TO STOP

PAGE 15

	ANSWERS	PAGE REF.
1	B	6
2	A	9
3	C	7
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SEBUM

FOOTNOTES

PAGE 4

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PAGE 6

IBID.

SEBUM

GLOSSARY

AFFECT

af fect

To act on; produce a change in.

A proper diet affects the hair, making it healthy.

BLOOD CIRCULATION

blood cir cu la tion

The continuous movement of blood through the heart and blood vessels, which is maintained chiefly by the action of the heart.

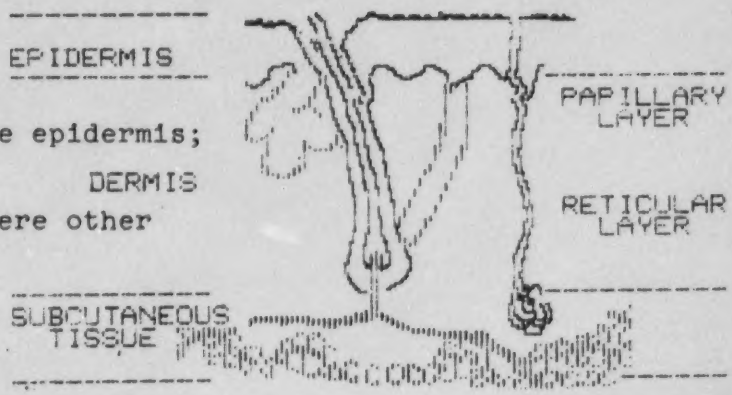
Good blood circulation is necessary for healthy hair.

DERMIS

der mis

The layer of the skin below the epidermis; first layer of the skin.

How many layers of skin are there other than the dermis?



DIET

di et

Food and drink considered in terms of its effect on health.

A well balanced diet includes fiber, protein and carbohydrates.

EMOTIONAL DISTURBANCE

e mo tion al dis turb ance

A disorder in the emotional well-being of an individual. Emotions are the feelings of joy, sorrow, fear, hate or love that an individual experiences.

An emotional disturbance could cause an individual to be extremely depressed; it could cause violent emotional swings from very happy to very depressed, etc.

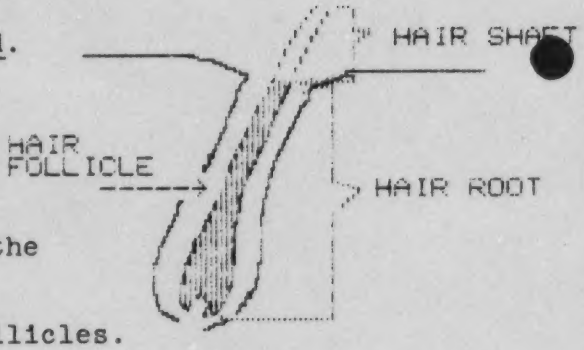
An emotional disturbance could be a result of a poor diet and lack of sleep.

ENDOCRINE GLAND

en do crine gland

Any of a number of glands, including thyroid, adrenal and pituitary glands, that secrete substances or hormones directly into the lymph or blood circulating through them.

The thyroid gland is an endocrine gland.



HAIR FOLLICLE

hair fol li cle

The depression of the skin containing the root of the hair.

The scalp contains a number of hair follicles.

HAIR ROOT

hair root

The portion of the hair structure found beneath the skin surface and enclosed within the follicle.

What is the hair root?

HAIR SHAFT

hair shaft

The portion of the hair structure extending above the skin surface.

Is the hair shaft visible?

NERVE CELLS

nerve cells

Carriers of impulses to and from the central nervous system.

A neuron is another name for a nerve cell.

NERVOUS STRESS

nerv ous stress

An anxiety caused by a nervous or tense situation.

The headache is caused by nervous stress.

NOURISHMENT

nour ish ment

Something to promote the growth or development of.

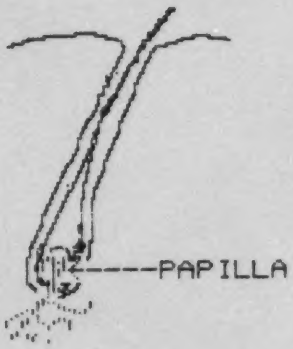
Three meals a day provide enough nourishment for most individuals.

PAPILLA

pa pil la

A small cone-shaped elevation at the bottom of the hair follicle in the dermis.

The papilla contains a rich blood and nerve supply.



PROTEIN

pro tein

A complex organic substance present in all living tissues; it is necessary in the daily diet.

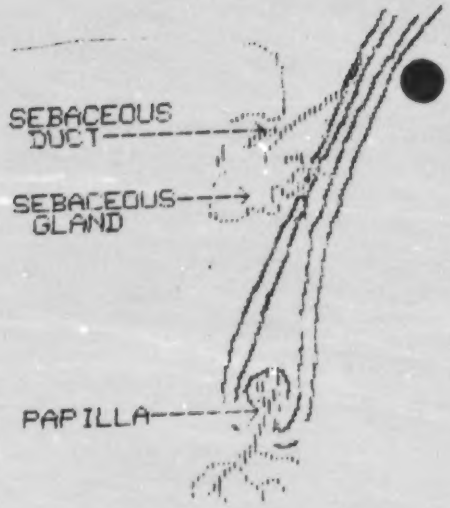
Protein is essential in everyone's diet.

SEBACEOUS DUCT

se ba ceous duct

A tubelike channel which ends at the skin surface to form a pore.

The sebaceous duct is a passageway to allow the sebum to reach the skin surface.



SEBACEOUS GLAND

se ba ceous gland

The oil glands of the skin; they produce sebum which lubricates the skin.

The sebaceous glands secrete sebum.

SEBUM

se bum

Fatty or oily secretions of the sebaceous gland.

Teenagers tend to have a greater amount of sebum than an elderly person.

SECRETIONS

se cre tions

To produce and give off.

The dermatologist tried to slow the secretions of oil on the boy's face.

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROGRAM COORDINATOR:

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PAGE 2

HAIR ROOT

VOCABULARY:

EPIDERMIS

PROTECTIVE

NERVE ENDINGS

CUTICLE

SCARF SKIN

HAIR SHAFT

WHOLLY

HAIR ROOT

PAGE 3

VOCABULARY: (CONTINUED)

DERMIS

SENSITIVE

HAIR FOLLICLE

INVERSION

PAPILLA

NOURISHMENT

HAIR BULB

ARRECTOR PILI MUSCLE

CONTRACTS

****

PAGE 4

VOCABULARY: (CONTINUED)

GOOSE BUMPS

SEBACEOUS GLAND

SEBACEOUS DUCT

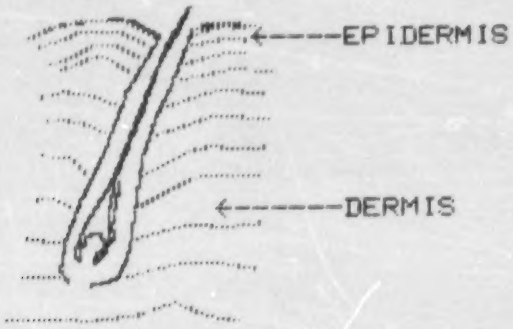
SEBUM

DANDRUFF

551

PAGE 5
FIGURE 1

The epidermis, or outer layer, forms the protective covering of the skin. It contains no blood vessels but has many small nerve endings. It may also be called the cuticle or scarf skin. The dermis is a very sensitive layer of skin below the protective epidermis layer.



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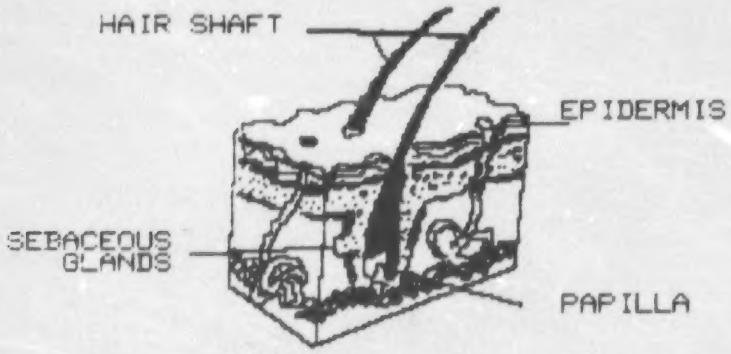
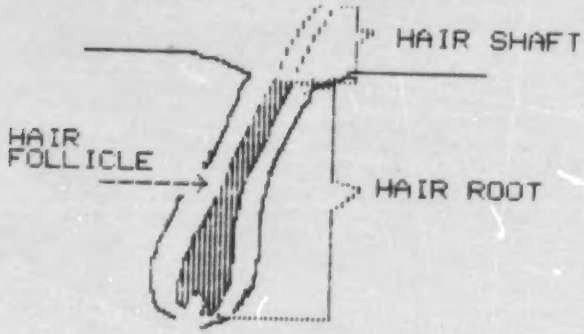
PAGE 6
FIGURE 2

The hair shaft or stem is the part of the hair that extends wholly above the skin.



PAGE 7
FIGURE 3

The hair root is the part of the hair that lies within the hair follicle.



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PAGE 8
FIGURE 4

The hair follicle is the pocket of skin around the hair root. Every hair has a hair follicle. It is a tube-like inversion of the skin through which the hair reaches the surface of the skin.

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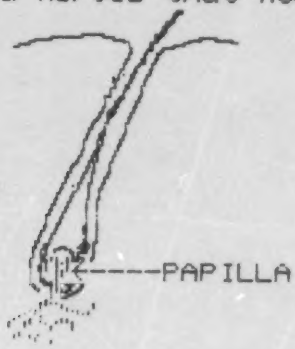
PAGE 9
FIGURE 5

At the bottom of the hair follicle is the papilla, where hair begins to grow. The papilla produces hair cells and provides the nourishment to keep the hair healthy. The hair papilla contains blood and nerves that nourish the hair.



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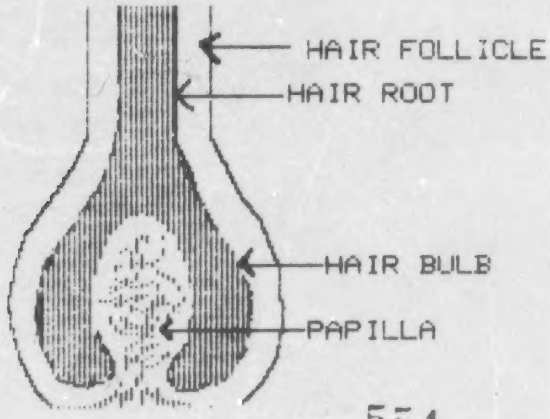
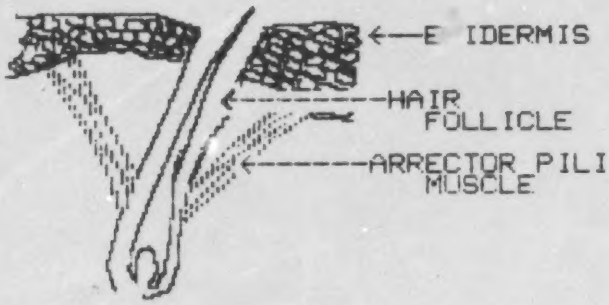
PAGE 10
FIGURE 6

The hair bulb fits over and surrounds the hair papilla, and forms the lower part of the hair root.



PAGE 11
FIGURE 7

The arrector pili is a muscle attached to the hair follicle. Fear or cold contracts the muscle which causes goose bumps.



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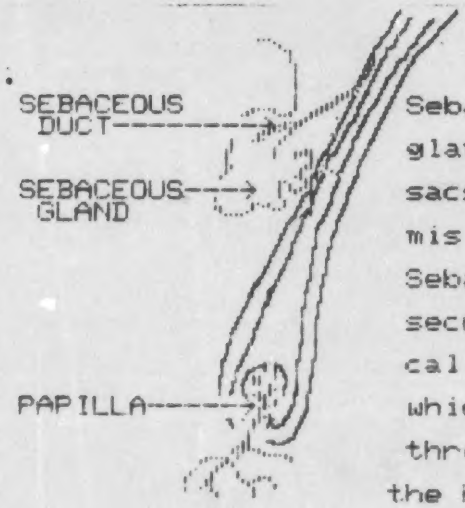
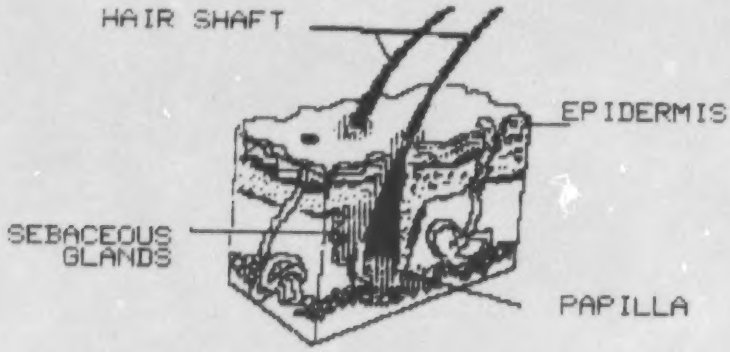
PAGE 12
FIGURE 8



Sebaceous or oil glands are small sacs in the dermis skin layer. Sebaceous glands secrete an oil called sebum, which is carried through a duct to the hair follicle.

PAGE 13
FIGURE 9

Sebum keeps the scalp skin soft, gives shine and flexibility to the hair shaft. When the sebaceous gland over-produces, it causes oily skin or dan-druff.



****

PAGE 14

1. THE SEBACEOUS GLAND PRODUCES SEBUM WHICH IS A(N) -----.

A. MINERAL

B. PROTEIN

C. OIL

PAGE 15

2. THE STRUCTURE THAT SURROUNDS THE PAPILLA AND IS THE LOWER PART OF THE HAIR ROOT IS THE -----.

A. HAIR BULB

B. HAIR FOLLICLE

C. SEBACEOUS GLAND

****

PAGE 16

3. THE POCKET OF SKIN AROUND THE HAIR ROOT IS THE -----.

A. HAIR SHAFT

B. HAIR FOLLICLE

C. ARRECTOR PILI

PAGE 17

4. THE MUSCLE THAT CONTRACTS TO CAUSE GOOSE BUMPS IS THE -----.

A. ARRECTOR PILI

B. PAPILLA

C. HAIR MUSCLE

****

PAGE 18

5. THE ----- CONTAINS BLOOD AND NERVE CELLS TO NOURISH THE HAIR.

A. PAPILLA

B. HAIR FOLLICLE

C. ARRECTOR PILI

PAGE 19

6. THE PASSAGEWAY WHICH CARRIES THE SEBUM FROM THE SEBACEOUS GLAND TO THE HAIR FOLLICLE IS CALLED THE -----.

A. SEBACEOUS DUCT

B. PAPILLA DUCT

C. ARRECTOR PILI

****

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PAGE 21

	ANSWERS	PAGE REF.
1	C	12
2	A	10
3	B	8
4	A	11
5	A	9
6	A	12

****

HAIR ROOT

FOOTNOTES

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IBID.

HAIR ROOT

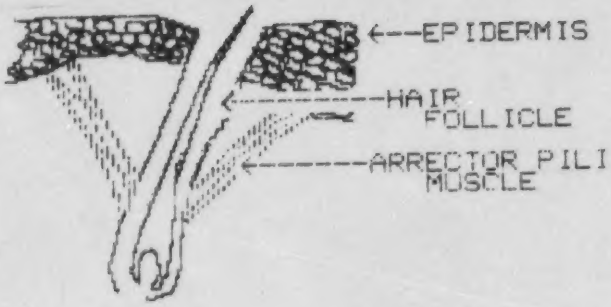
GLOSSARY

ARRECTOR PILI MUSCLE

ar rec tor pi li mus cle

An involuntary muscle which connects to the hair follicle.

The arrector pili muscles react to cold and fear.



CONTRACT

con tract

To draw together or up in order to make shorter.

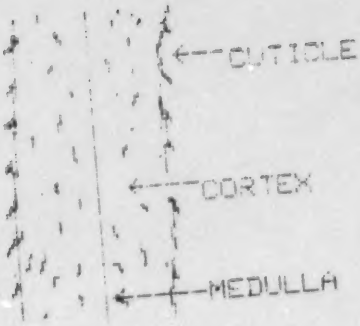
The arrector pili muscles contract when they're exposed to cold.

CUTICLE

cu ti cle

The outer layer of the hair.

The cuticle allows chemicals to penetrate its scales so that solutions can enter.



DANDRUFF

dan druff

Dead scales that form in excess and tend to flake. They are shed from the scalp.

Dandruff can be treated by a cosmetologist with the use of medicated creams and shampoos.

DERMIS

561

der mis

The layer below the epidermis.

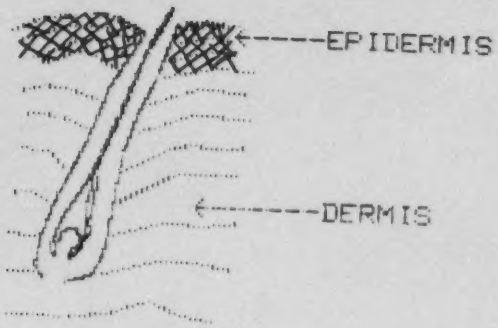
The dermis is also referred to as the true skin.

EPIDERMIS

ep i der mis

The outer layer of skin.

The epidermis is often called the cuticle or scarf skin.



GOOSE BUMPS

goose bumps

A roughing of the skin, caused by cold or fear, in which the arrector pili muscle contracts.

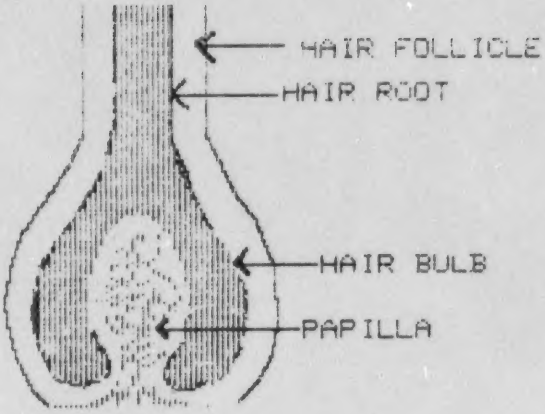
Aaron was frightened; goose bumps formed on his skin.

HAIR BULB

hair bulb

The lower part of the hair root. It has a club shape.

The hair bulb is hollowed out at the bottom to fit over the papilla.



HAIR FOLLICLE

hair fol li cle

The depression of the skin containing the root of the hair.

The hair follicle has several structures connected to it.

HAIR ROOT

hair root

The part that is contained within the follicle.

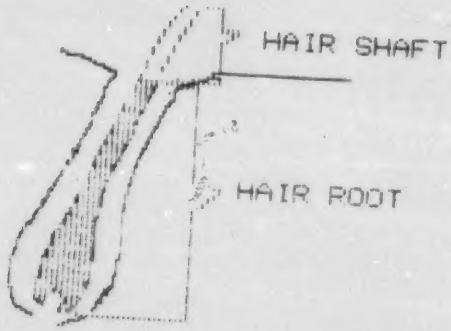
Where do you find the hair root?

HAIR SHAFT

hair shaft

The portion of the hair structures extending above the skin.

The hair shaft is visible.



INVERSION

in ver sion

The act of being reversed or turned inside out.

The hair follicle is a tube-like inversion of the skin through which the hair reaches the surface of the skin.

NERVE ENDINGS

nerve end ings

They carry nerve impulses to the brain.

If we get burned, the nerve endings will carry impulses to the brain.

NOURISHMENT

nour ish ment

Something to promote the growth or development of.

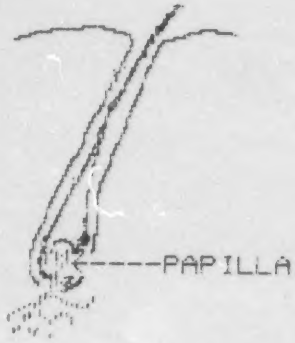
A baby needs a balanced diet to provide nourishment for a healthy body.

PAPILLA

pa pil la

A small, cone shape elevation at the bottom of the hair follicle filled with nerve endings; provides nourishment in the hair.

If the papilla is destroyed, the hair will not grow.



PROTECTIVE

pro tec tive

Having the quality or function of covering or defending.
A dog is very protective of his master.

SCARF SKIN

scarf skin

Another name for the epidermis.

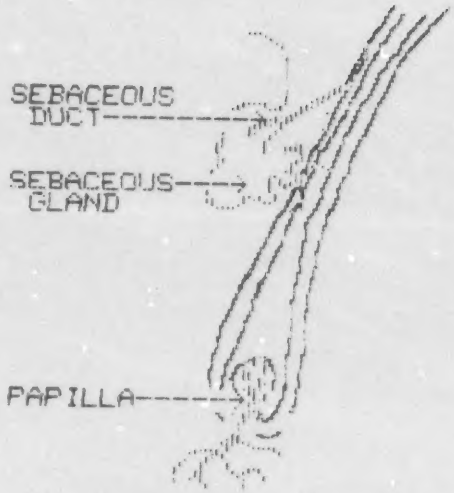
The scarf skin contains many layers of skin.

SEBACEOUS DUCT

se ba ceous duct

Connected to the hair follicle.
A passageway to the skin surface for sebum.

The sebaceous ducts contain sebum.



SEBACEOUS GLAND

se ba ceous gland

A gland that produces sebum which lubrucates the skin.

The sebaceous glands are also known as the oil glands.

SEBUM

se bum

The fatty or oily secretions of the sebaceous glands.

Sebum gives the hair its luster and pliability.

SENSITIVE

sen si tive

Easily or strongly affected by heat or chemicals.

My skin is very sensitive to hot and cold.

WHOLLY

whol ly

Completely to the full extent.

The report had to be wholly completed by Wednesday.

565

PAGE 1

STRUCTURE OF THE HAIR

VOCABULARY:

HAIR FOLLICLE

ASSUMES

STRAIGHT HAIR FOLLICLE

WAVY HAIR FOLLICLE

CURLY HAIR FOLLICLE

CUTICLE

SCALE-LIKE

TRANSPARENT

****

PAGE 2

VOCABULARY: (CONTINUED)

PERM SOLUTION

CHEMICAL SOLUTION

PERMEATE

HAIR SHAFT

CORTEX

STRETCHABILITY

ELASTICITY

MELANIN

PIGMENT

PAGE 3

VOCABULARY: (CONTINUED)

ALBINO

MEDULLA

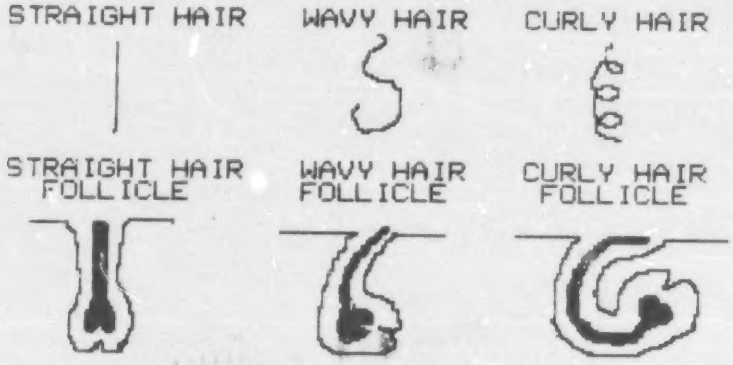
CORE

INTERMITTENTLY SPACED

****

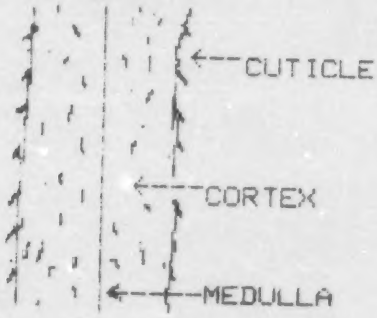
PAGE 4
FIGURE 1

The hair generally has one of three shapes. As the hair grows it assumes the direction, the size, and the shape of the hair follicle. If you look at the hair follicle under the microscope, you would see these three shapes.



PAGE 5
FIGURE 2

The structure of hair is made up of cells in three layers: CUTICLE, CORTEX AND MEDULLA.



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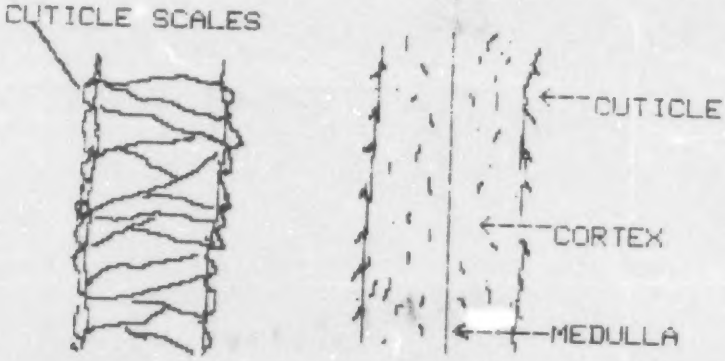
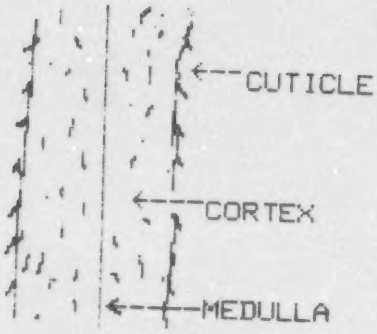
PAGE 6
FIGURE 3

The cuticle is the outside layer. It is scale-like and transparent. Perm solutions and other chemical solutions open these scales allowing the solution to permeate the hair shaft.



PAGE 7
FIGURE 4

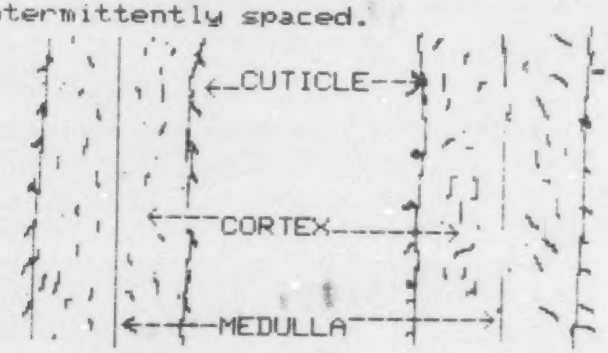


The cortex is the middle layer - sometimes the inner layer-which gives the hair strength and stretchability or elasticity. This layer also contains the melanin or pigment that gives the hair its color. The hair shaft color depends upon the amount of melanin that is in the hair shaft. An albino, a person with white hair, has neither melanin nor color pigment.

****

PAGE 8
FIGURE 5

Medulla is the inner layer or core. Coarse and medium hair have medulla, fine hair does not. Medulla can be intermittently spaced.



PAGE 9

1. THE OUTSIDE LAYER OF THE HAIR THAT IS MADE UP OF SCALES IS CALLED THE -----.

A. CORTEX

B. CUTICLE

C. MEDULLA

****

PAGE 10

2. THE LAYER THAT PRODUCES PIGMENT THAT GIVES THE HAIR COLOR IS THE -----.

A. CORTEX

B. CUTICLE

C. MEDULLA

PAGE 11

3. HAIR IS MADE UP OF THREE DIFFERENT CELL LAYERS. VERY FINE HAIR LACKS THE ----- LAYER.

A. CORTEX

B. CUTICLE

C. MEDULLA

****

PAGE 12

4. AS HAIR GROWS, IT ASSUMES THE -----.

A. DIRECTION OF THE FOLLICLE

B. SHAPE OF THE FOLLICLE

C. SIZE OF THE FOLLICLE

D. ALL OF THE ABOVE

PAGE 13

5. PERM SOLUTIONS MUST PERMEATE THE ---- LAYER SO THEY MAY WORK ON THE HAIR SHAFT.

A. CORTEX

B. CUTICLE

C. MEDULLA

****

PAGE 14

	ANSWERS	PAGE REF.
1	B	6
2	A	7
3	C	8
4	D	4
5	B	6

****

STRUCTURE OF THE HAIR

FOOTNOTES

PAGE 4

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STRUCTURE OF THE HAIR

GLOSSARY

ALBINO

al bi no

Very little or no pigment in the skin, hair and iris.

Karen is considered to be an albino.

ASSUMES

as sumes

To take for granted.

The teacher assumes everyone will do his homework.

CHEMICAL SOLUTION

chem i cal so lu tion

A substance that acts upon something to cause a permanent change.

Hairdressers have to become familiar with most of the chemical solutions in the salon.

CORE

core

The center of something.

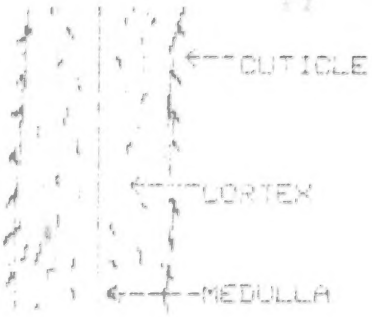
The core of the earth was once believed to be molten rock.

CORTEX

cor tex

The second layer of the hair.

Permanent hair colors penetrate the cuticle and enter the cortex.



CURLY HAIR FOLLICLES

cur ly hair fol li cles

The curly hair assumes the shape of the follicle.

A cross-sectional view of the hair shows that curly hair follicles are circular in shape.

ELASTICITY

e las tic i ty

The property that allows a thing to be stretched and returned to its former shape.

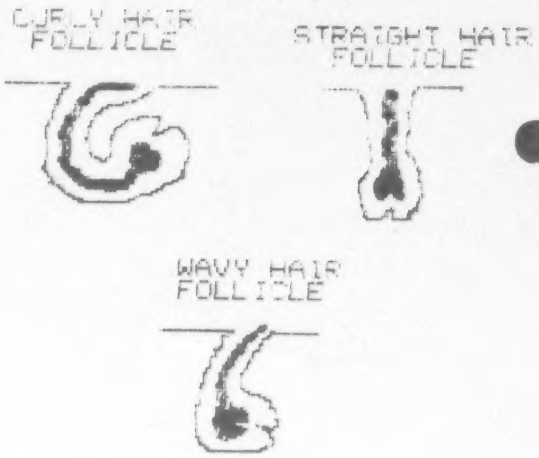
Hair elasticity is an important factor to consider when determining a style for a patron.

HAIR FOLLICLE

hair fol li cle

The depression of the skin containing the root of the hair.

The hair root is surrounded by the hair follicle.

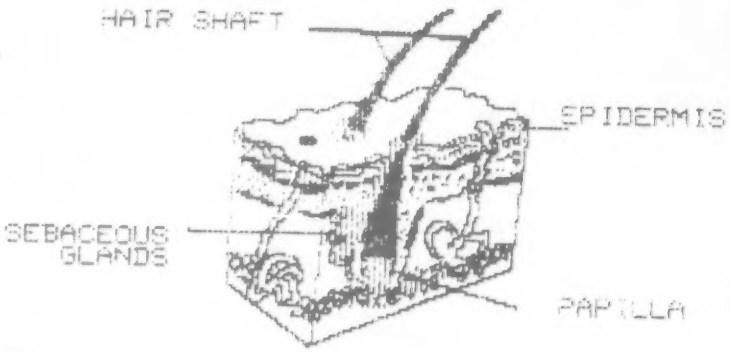


HAIR SHAFT

hair shaft

The portion of the hair which projects beyond the skin.

Henna coats the hair shaft.



INTERMITTENTLY SPACED

in ter mit tent ly spaced

To start and stop; not continuous.

The medulla in some hair is intermittently spaced.

MEDULLA

me dul la

May be present in the center of the hair shaft.

Under the microscope we could see very little of a medulla in Tracy's hair.

MELANIN

mel a nin

The color-forming pigment in the skin, hair and eyes.

The melanin is what determines a person's hair color.

PERM SOLUTION

perm so lu tion

Another name for Cold Wave lotions.

The perm solution has a softening effect on the hair.

PERMEATED

per me at ed

Spread throughout.

As the woman lit the cigarette, the room was permeated with the odor of tobacco.

PIGMENT

Pig ment

Coloring matter.

Barbara has a lot of red pigment in her hair.

SCALE-LIKE

Scale - like

In a thin layer of overlapping sections.

The cuticle layer of the hair shaft is composed of many transparent scale-like cells.

STRAIGHT HAIR FOLLICLES

straight hair fol li cles

The follicle surrounding the straight hair root.

Debbie's hair is straight, so it contains straight hair follicles.

STRETCHABILITY

Stretch a bil i ty

The ability to become extended without breaking.

Elastic has stretchability.

TRANSPARENT

trans par ent

Easy to see through; clear.

The gown she wore to the prom had transparent sleeves.

WAVY HAIR FOLLICLES

wa vy hair fol li cles

The oval follicles usually found in wavy hair.

A person with wavy hair has oval hair follicles.

PAGE 1

HAIR TEXTURE-ELASTICITY-CONDITION

VOCABULARY:

RECOGNIZE

VARIOUS

QUALITIES

TEXTURE

DIAMETER

HAIR SHAFT

COARSE

MEDULLA

****

PAGE 2

VOCABULARY: (CONTINUED)

CUTICLE

CORTEX

ABSORB

ELASTICITY

POROSITY

PAGE 3

THE COSMETOLOGIST MUST BE ABLE TO RECOGNIZE VARIOUS TYPES OF HAIR, SO THAT THE CORRECT TREATMENT WILL BE GIVEN. THE COSMETOLOGIST LOOKS AT HAIR IN FOUR WAYS TO MAKE A JUDGMENT. THE FOUR QUALITIES ARE:

1. POROSITY,
2. TEXTURE,
3. ELASTICITY, AND
4. CONDITION.

****

PAGE 4

TEXTURE DEPENDS ON THE THICKNESS OF THE HAIR, RANGING FROM COARSE TO FINE.

THE LARGER THE DIAMETER OF THE HAIR SHAFT, THE MORE COARSE.

THE SMALLER THE DIAMETER, THE FINER THE HAIR.

PAGE 5

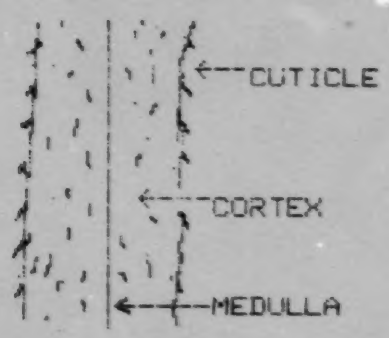
COARSE HAIR CONTAINS THE THREE LAYERS - MEDULLA, CUTICLE AND CORTEX, AND CAN ABSORB THE GREATEST AMOUNT OF MOISTURE.

MEDIUM HAIR, THE NORMAL HAIR TYPE, CONTAINS A MEDULLA, CORTEX AND A CUTICLE. THE COSMETOLOGIST WILL FIND MEDIUM HAIR THE MOST COMMON AMONG PATRONS.

****

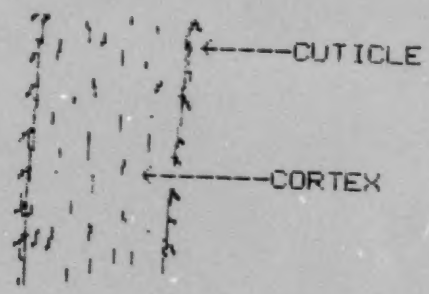
PAGE 6
FIGURE 1

Coarse and medium hair have a medulla, cortex and a cuticle.



PAGE 7
FIGURE 2

Fine hair contains only a cortex and a cuticle, and requires special handling and consideration. It will break and damage very easily. Fine hair usually contains no medulla.



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PAGE 8

HAIR ELASTICITY IS THE STRETCH A HAIR STRAND CAN WITHSTAND AND RETURN TO ITS ORIGINAL FORM WITHOUT BREAKING. HAIR IS DIVIDED INTO THREE CATEGORIES:

1. NORMAL ELASTICITY,
2. GOOD ELASTICITY, AND
3. POOR ELASTICITY.

PAGE 9

NORMAL ELASTICITY CAN STRETCH ABOUT 20% OF ITS LENGTH AND SPRING BACK. WET HAIR CAN STRETCH 40% TO 50% OF ITS HAIR LENGTH.

GOOD ELASTICITY CAN STRETCH EVEN MORE AND SPRING BACK.

POOR ELASTICITY CAUSES HAIR TO BREAK EASILY WHEN STRETCHED.

****

PAGE 10

A COSMETOLOGIST MUST ALWAYS JUDGE THE CONDITION OF A PATRON'S HAIR. CONDITION REFERS TO THE QUALITY OR HEALTHINESS OF THE HAIR. OVERUSE OF PERMS, TINTS OR LIGHTENERS MAY CAUSE POOR HAIR CONDITION. HAIR WITH POOR CONDITION MUST BE CONSIDERED WITH SPECIAL UNDERSTANDING BY THE COSMETOLOGIST.

PAGE 11

1. HAIR TEXTURE RANGES FROM COARSE TO FINE. THE COARSER THE HAIR, THE ----- IT IS.

A. WIDER OR THICKER

B. NARROWER

C. THINNER

****

PAGE 12

2. HAIR ELASTICITY IS THE ABILITY OF THE HAIR TO STRETCH AND SPRING BACK. THE TYPE OF HAIR THAT BREAKS EASILY WHEN STRETCHED IS HAIR WITH -----.

A. GOOD ELASTICITY

B. NORMAL ELASTICITY

C. POOR ELASTICITY

PAGE 13

3. WHICH OF THE AREAS BELOW DOES A COSMETOLOGIST NOT NEED TO ASSESS BEFORE GIVING A PATRON A PERM? -----

A. POROSITY OF THE HAIR

B. PROTEIN LEVEL OF THE HAIR

C. ELASTICITY OF THE HAIR

D. TEXTURE OF THE HAIR

****

PAGE 14

4. THE COSMETOLOGIST MUST PAY SPECIAL ATTENTION TO ALL TYPES OF HAIR. THE TYPE OF HAIR NEEDING THE LEAST AMOUNT OF ATTENTION IS ----- ?

A. BLEACHED

B. TINTED

C. NORMAL

D. VERY FINE

PAGE 15

5. NORMAL WET HAIR CAN STRETCH UP

TO ----- OF IS HAIR LENGTH.

A. 50%

B. 80%

C. 30%

****

PAGE 16

	ANSWERS	PAGE REF.
1	A	4
2	C	9
3	B	3
4	C	10
5	A	9

HAIR TEXTURE - ELASTICITY - CONDITION

GLOSSARY

ABSORB

ab sorb

To take in.

The mop will readily absorb the milk that has spilled onto the floor.

COARSE

coarse

Made up of large particles; rough

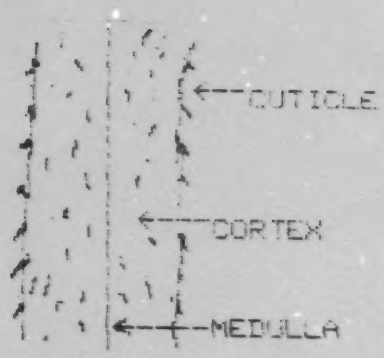
Mary has coarse hair.

CORTEX

cor tex

The second layer of hair.

The cortex gives strength and elasticity to the hair.



CUTICLE

cu ti cle

The thin outer layer of the hair.

The cuticle has a horny scale-like covering.

DIAMETER

di am e ter

The length of a straight line passing through the center of an object.

The diameter of a perm rod is very important in determining the shape of the hairstyle.

ELASTICITY

e las tic i ty

The ability to stretch.

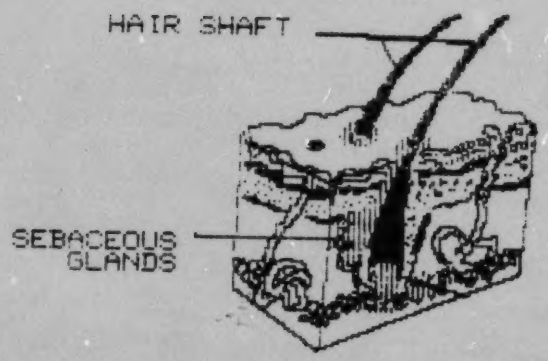
A rubber band contains
a lot elasticity.

HAIR SHAFT

hair shaft

The portion of the hair structure
extending above the skin.

The hair shaft is visible.

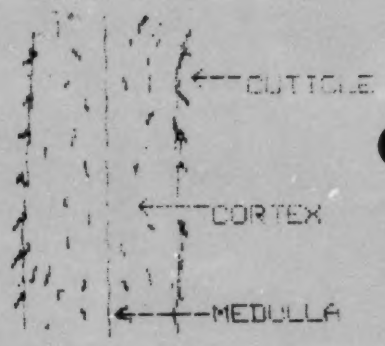


MEDULLA

me dul la

The center of the hair shaft.
This layer isn't always present
in all hair types.

The medulla is the very fine
inner layer of the hair shaft.



POROSITY

po ros i ty

The quality of being porous,
or able to absorb liquid.

The degree of porosity in the
hair plays an important factor
in perm waving.

QUALITIES

583

qual i ties

Features or characteristics of.

Copper contains certain qualities.

RECOGNIZE

rec og nize

To remember and know upon seeing.

The instructor had recognized the student from last year.

TEXTURE

Tex ture

The structure, feel and appearance.

The texture of satin is smooth, soft and glossy.

VARIOUS

var i ous

Different from each other.

There are various hair colors from which a patron may choose.

HAIR POROSITY

VOCABULARY:

QUALITIES

TEXTURE

ELASTICITY

POROSITY

ABSORB

SCALES

CUTICLE LAYER

HAIR SHAFT

****

VOCABULARY: (CONTINUED)

PENETRATE

STRAND TEST

PAGE 3

POPOSITY, TEXTURE, ELASTICITY AND CONDITION OF THE HAIR ARE IMPORTANT QUALITIES THE COSMETOLOGIST MUST ASSESS BEFORE THE PATRON'S HAIR IS TREATED.

****

PAGE 4

POROSITY, THE ABILITY OF HAIR TO ABSORB MOISTURE, IS DESCRIBED IN THREE WAYS: GOOD, MODERATE AND POOR POROSITY.

GOOD-POROSITY HAIR HAS THE ABILITY TO ABSORB MOISTURE OR CHEMICALS. THE SCALES ON THE CUTICLE LAYER ARE RAISED, FROM THE HAIR SHAFT, TO ALLOW THE CHEMICALS TO PENETRATE INTO THE SHAFT.

PAGE 5

MODERATE POROSITY HAIR IS THE

AVERAGE HAIR OR NORMAL POROSITY MOST OFTEN SEEN BY THE COSMETOLOGIST. MODERATE AND GOOD-POROSITY HAIR ARE PERMED, TINTED OR LIGHTENED EASILY, USUALLY WITH NO PROBLEM TO THE COSMETOLOGIST.

****

PAGE 6

POOR-POROSITY HAIR ABSORBS SMALL

AMOUNTS OF MOISTURE. THE SCALES ON THE CUTICLE LAYER ARE TIGHT TO THE HAIR SHAFT, SO MOISTURE OR CHEMICALS CANNOT EASILY PENETRATE TO THE HAIR SHAFT. THIS QUALITY MAKES IT VERY DIFFICULT TO PERM OR CHEMICALLY TREAT THIS HAIR. SPECIAL ATTENTION, ANALYSIS AND A STRAND TEST MUST BE DONE BEFORE TREATING.

PAGE 7

1. SPECIAL ATTENTION MUST BE GIVEN HAIR WITH -----.

A. GOOD POROSITY

B. MODERATE POROSITY

C. POOR POROSITY

****

PAGE 8

2. GOOD POROSITY -----.

A. ALLOWS CHEMICALS AND MOISTURE TO PENETRATE THE HAIR SHAFT

B. DOES NOT ALLOW CHEMICALS TO PENETRATE THE HAIR SHAFT

C. IS PRESENT IN HAIR WITHOUT A CUTICLE

594

PAGE 9

3. POROSITY IS THE ABILITY OF THE HAIR SHAFT TO ABSORB -----.

A. SEBUM AND OIL

B. MOISTURE AND CHEMICALS

C. PROTEIN AND MINERALS

****

PAGE 10

4. THE MOST DIFFICULT HAIR TO PERM OR CHEMICALLY TREAT IS HAIR WITH -----.

A. GOOD POROSITY

B. MODERATE POROSITY

C. POOR POROSITY

PAGE 11

	ANSWERS	PAGE REF.
1	C	6
2	A	4
3	B	4
4	C	6

HAIR POROSITY

FOOTNOTES

PAGE 4

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GLOSSARY

ABSORB

ab sorb

To take in.

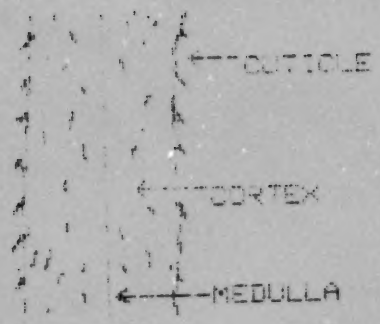
The mop will readily absorb the milk that has spilled onto the floor.

CUTICLE LAYER

cu ti cle lay er

The thin outer layer of the hair.

The cuticle layer has a horny scale-like covering.



ELASTICITY

e las tic i ty

The ability to stretch.

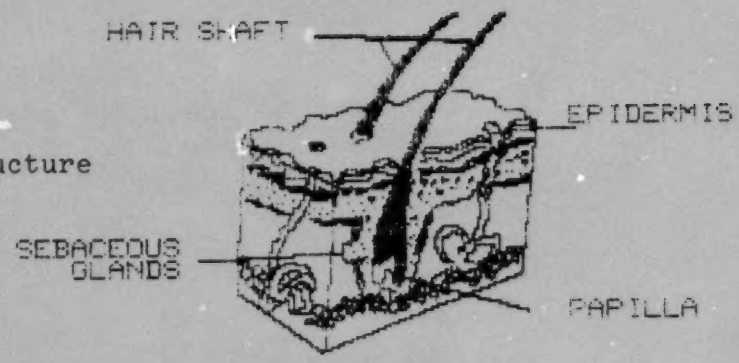
A rubber band contains a lot of elasticity.

HAIR SHAFT

hair shaft

The portion of the hair structure extending above the skin.

The hair shaft is visible.



PENETRATE

pen e trate

To pass into or through.

Permanent hair coloring must <u>penetrate</u> the cuticle layer of the hair shaft.

POROSITY

po ros i ty

The ability to absorb a liquid.

The degree of <u>porosity</u> in the hair plays an important part in perm waving.

QUALITIES

qual i ties

Features or characteristics of.

Copper contains certain <u>qualities</u> that make it easy to distinguish from other metals.

SCALES

scales

Small thin layers.

A fish has protective <u>scales</u> for its covering.

598

STRAND TEST

strand test

A test given to determine a patron's hair color selection.

It is always wise to do a strand test before doing the actual treatment.

TEXTURE

tex ture

The structure, feel and appearance.

The texture of satin is smooth, soft and glossy.

11

State Board Exam Review

PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROJECT COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

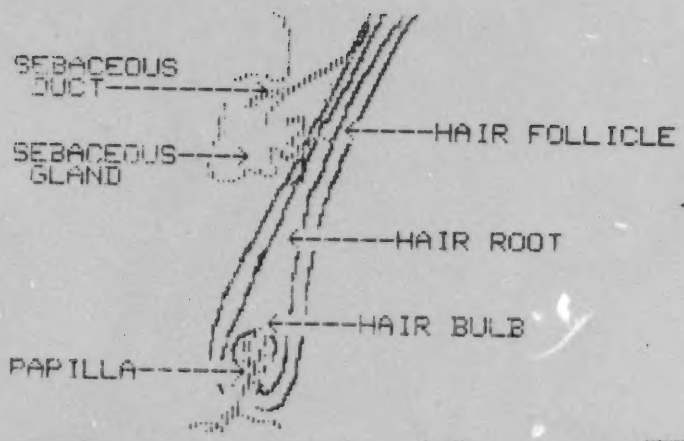
MARY KAY MCGIFF

****

PAGE 2

THESE REVIEW QUESTIONS ARE DESIGNED TO ASSIST YOU IN YOUR PREPARATION FOR THE STATE BOARD EXAM. IF YOU INCORRECTLY ANSWER A QUESTION, REFER TO YOUR COSMETOLOGY TEXTBOOK FOR FURTHER EXPLANATION, OR ASK YOUR INSTRUCTOR.

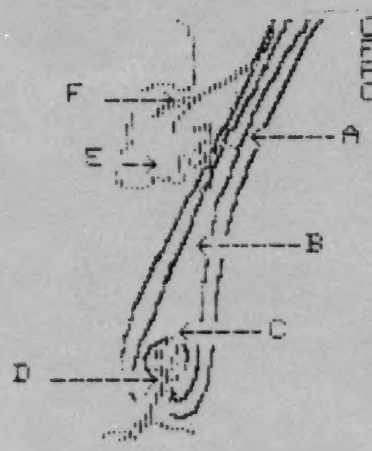
601



STUDY THIS PICTURE OF THE HAIR ROOT UNTIL YOU BECOME FAMILIAR WITH EACH PART.

602

PAGE 4
FIGURE 2

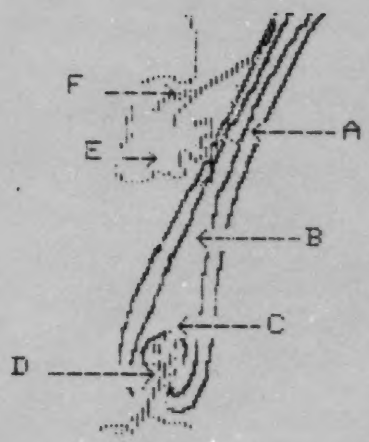


CHOOSE THE LETTER FROM A TO F WHICH POINTS TO THE CORRECT ANSWER.

The club-shaped structure that forms the lower part of the hair root.

TYPE IN YOUR RESPONSE. -----

PAGE 5
FIGURE 3

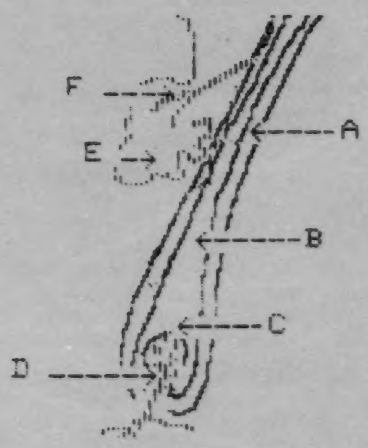


The producer of sebum which gives the hair shine and flexibility.

TYPE IN YOUR RESPONSE. -----

604

PAGE 6
FIGURE 4

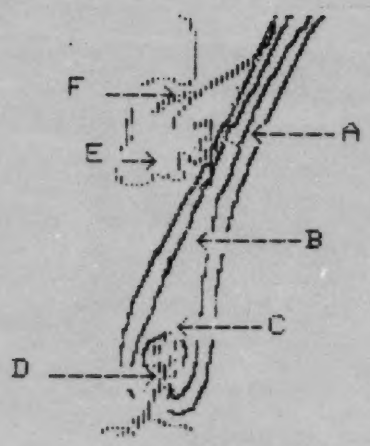


It supplies the nourishment to the hair root and has the ability to produce new hair cells.

TYPE IN YOUR RESPONSE. -----

605

PAGE 7
FIGURE 5



The passageway that allows sebum to reach the hair follicle.

TYPE IN YOUR RESPONSE. -----

606

PAGE 8

5. THE COLOR PIGMENT OF THE HAIR IS -----.

A. KERATIN

B. MELANIN

C. ENZYMES

D. SEBUM

****

PAGE 9

6. THE INNER LAYER OF THE HAIR SHAFT, SOMETIMES MISSING IN FINE HAIR, IS THE -----.

A. MEDULLA

B. CORTEX

C. CUTICLE

D. DERMIS

E. EPIDERMIS

PAGE 10

7. IF THE PAPILLA IS DESTROYED,

WHAT WILL HAPPEN TO THE HAIR?

A. THE HAIR WILL GROW LONGER AND FASTER.

B. THE HAIR COLOR WILL CHANGE TO A DARK BROWN.

C. THE HAIR WILL STRAIGNTEN WITHIN THE FOLLICLE.

D. THE HAIR WILL NEVER GROW AGAIN.

E. THE HAIR COLOR WILL BE STRIPPED.

****

PAGE 11

8. COLOR PIGMENT IS FOUND IN WHICH

LAYER OF THE HAIR? -----

A. MEDULLA

B. CORTEX

C. DERMIS

D. EPIDERMIS

E. CUTICLE

608

PAGE 12

9. THE HAIR ROOT, BELOW THE SKIN SURFACE, IS SURROUNDED BY THE -----.

A. HAIR CUTICLE

B. HAIR CORTEX

C. HAIR FOLLICLE

D. HAIR PAPILLA

E. HAIR SHAFT

****

PAGE 13

10. THE SCALE-LIKE OUTER LAYER OF THE HAIR SHAFT IS THE -----.

A. DERMIS

B. MEDULLA

C. CORTEX

D. ADIPOSE

E. CUTICLE

PAGE 14

11. THE HAIR SHAFT TAKES ITS SHAPE, DIRECTION AND SIZE FROM THE -----.

A. HAIR FOLLICLE

B. PAPILLA

C. HAIR CUTICLE

D. HAIR ROOT

E. HAIR BULB

****

PAGE 15

12. THE HAIR IS COMPOSED OF A PROTEIN CALLED -----.

A. MELANIN

B. SEBUM

C. CORTEX

D. KERATIN

E. CUTICLE

610

PAGE 16

13. THE ARRECTOR PILI IS A MUSCLE THAT RESPONDS TO -----.

A. FEAR

B. COLD

C. BOTH A AND B

D. NONE OF THE ABOVE

****

PAGE 17

14. THE OUTER PROTECTIVE, VISIBLE LAYER OF THE SKIN IS THE ----.

A. DERMIS

B. EPIDERMIS

C. CUTICLE

D. CORTEX

E. MEDULLA

PAGE 18

15. THE SKIN IS KEPT SOFT AND FLEXIBLE BY THE SECRETION OF WHAT SUBSTANCE? -----

A. ALCOHOL

B. MELANIN

C. KERATIN

D. SWEAT

E. SEBUM

****

PAGE 19

16. THE SEBACEOUS DUCT EMPTIES SEBUM INTO THE -----.

A. HAIR SHAFT

B. HAIR BULB

C. HAIR ROOT

D. HAIR FOLLICLE

E. PAPILLA

PAGE 20

	ANSWERS	PAGE REF.
1	C	3
2	E	3
3	D	3
4	F	3
5	B	0
6	A	0
7	D	0
8	B	0
9	C	0
10	E	0
11	A	0
12	D	0
13	C	0
14	B	0
15	E	0
16	D	0

REVIEW QUESTIONS

THE HAIR FOLLICLE

FOOTNOTES

PAGE 3
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PAGE 4
IBID.

PAGE 5
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PAGE 6
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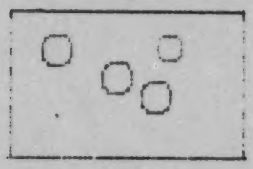
****

PAGE 2
FIGURE 1



1. Identify these pathogenic bacteria.

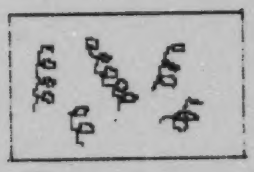
   A. cocci

   B. bacilla

   C. spirilla

TYPE IN YOUR RESPONSE. ----

PAGE 3
FIGURE 2



2. Identify these pathogenic bacteria.

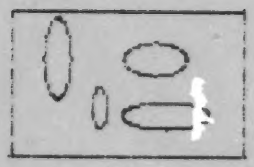
A. cocci

B. bacilla

C. spirilla

TYPE IN YOUR RESPONSE. -----

PAGE 4
FIGURE 3



3. Identify these pathogenic bacteria.

A. cocci

B. bacilla

C. spirilla

TYPE IN YOUR RESPONSE. -----

PAGE 5

4. BACTERIA ARE ONE-CELLED MICRO-ORGANISMS OF -----.

A. ANIMAL ORIGIN

B. VEGETABLE ORIGIN

C. MINERAL ORIGIN

D. CHEMICAL ORIGIN

****

PAGE 6

5. PATHOGENIC BACTERIA PRODUCE ---.

A. HEALTH

B. DISEASE

C. ANTITOXINS

D. BENEFICIAL EFFECTS

PAGE 7

6. HARMFUL BACTERIA ARE REFERRED TO AS -----.

A. SAPROPHYTES

B. PATHOGENIC

C. NON-PATHOGENIC

D. PROTOZOA

****

PAGE 8

7. PATHOGENIC BACTERIA ARE COMMONLY KNOWN AS -----.

A. ANTISEPTICS

B. DISINFECTANTS

C. GERMS OR MICROBES

D. BENEFICIAL BACTERIA

PAGE 9

8. COCCI ARE BACTERIA HAVING A

-----.

A. ROUND SHAPE

B. ROD SHAPE

C. CORKSCREW SHAPE

D. CURVED SHAPE

****

PAGE 10

9. PUSTULES AND BOILS ARE INFEC-

TIONS CONTAINING -----.

A. NON-PATHOGENIC ORGANISMS

B. PATHOGENIC BACTERIA

C. SEBUM

D. RINGWORM

PAGE 11

10. SEPSIS IS POISONING DUE TO

-----.

A. PATHOGENIC BACTERIA

B. NON-PATHOGENIC BACTERIA

C. SAPROPHYTES

D. HYPERTRICHOSIS

****

PAGE 12

11. TOXIN MEANS -----.

A. DEODORANT

B. POISON

C. STYPTIC

D. FUMIGANT

PAGE 13

12. A COMMUNICABLE DISEASE IS ---.

A. NOT TRANSFERRED FROM ONE PERSON TO ANOTHER

B. NOT RESPONSIBLE FOR AN EPIDEMIC

C. TRANSMITTED FROM ONE PERSON TO ANOTHER

D. CAUSED BY NON-PATHOGENIC BACTERIA

****

PAGE 14

13. A BOIL IS AN EXAMPLE OF A ----.

A. GENERAL INFECTION

B. LOCAL INFECTION

C. NON-PATHOGENIC BACTERIA

D. NON-CONTAGIOUS DISEASE

PAGE 15

14. RESISTANCE TO DISEASE IS KNOWN AS -----.

A. INFECTION

B. IMMUNITY

C. PARASITE

D. FUNGUS

****

PAGE 16

15. THE COMMON COLD IS AN EXAMPLE OF A -----.

A. SPOT INFECTION

B. VERRUCA INFECTION

C. LESION INFECTION

D. VIRUS INFECTION

PAGE 17

	ANSWERS	PAGE REF.
1	A	0
2	C	0
3	B	0
4	B	0
5	B	0
6	B	0
7	C	0
8	A	0
9	B	0
10	A	0
11	B	0
12	C	0
13	B	0
14	B	0
15	D	0

REVIEW QUESTIONS

BACTERIOLOGY

FOOTNOTES

PAGE 2

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PAGE 3

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PAGE 4

IBID.

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PAGE 1

OCCUPATIONAL READING MODULES

OSWEGO COUNTY B.O.C.E.S.

STATE PROJECT #81-3A-9111GS

PROJECT COORDINATOR:

KATHY FINNERTY

AREA CONSULTANT:

KATHY KELSEY

PROGRAMMERS:

JIM HURD

MARY KAY MCCIFF

****

PAGE 2

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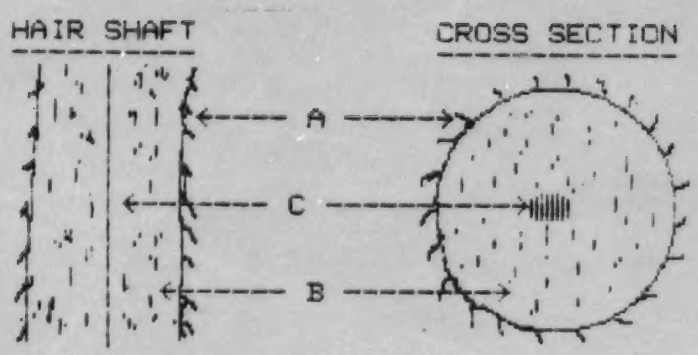
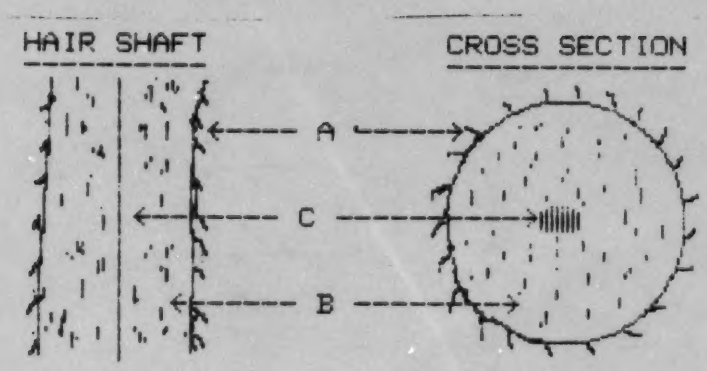


1. Which letter points to the cuticle?

TYPE IN YOUR RESPONSE. -----

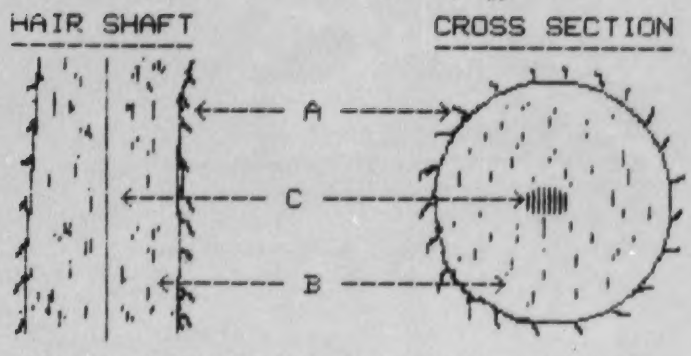
625

PAGE 4
FIGURE 2



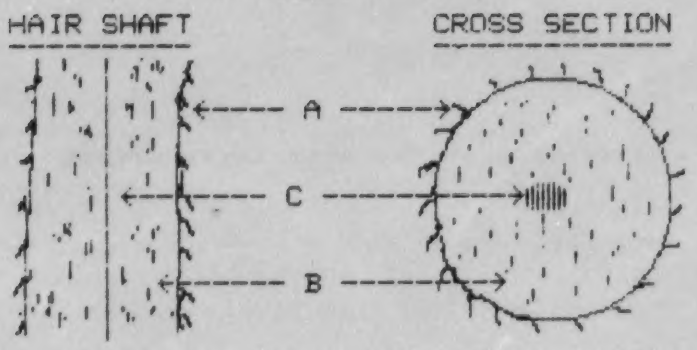
2. Which letter points to the medulla?

TYPE IN YOUR RESPONSE. -----



3. Which letter points to the cortex?

TYPE IN YOUR RESPONSE. -----



4. Coloring matter is found in which layer of the hair?

A. Cuticle B. Cortex C. Medulla

TYPE IN YOUR RESPONSE. -----

PAGE 7

FOR EACH TERM ON THE LEFT, CHOOSE THE CORRECT DEFINITION FROM COLUMN ONE ON THE RIGHT. (QUESTIONS 5-9)

TERMS	DEFINITIONS
--- FINGER TEST	A. PROTECTS HAIR FROM BREAKAGE
--- STRAND TEST	B. METHOD USED TO CHECK POROSITY
--- CONDITIONING	C. PENETRATES THE HAIR SHAFT, OPENS CUTICLE SCALES, RELAXES THE SHAFT
--- NEUTRALIZER	D. METHOD USED TO CHECK CONDITION OF HAIR
--- AMMONIUM THIOGLYCOLATE	E. REFORMS SULFUR BONDS IN SHAFT

****

PAGE 8

10. WHEN THE COSMETOLOGIST IS RELAXING VIRGIN HAIR, THE RELAXER IS FIRST APPLIED TO WHICH PART OF THE HAIR SHAFT? -----

A. SCALP

B. MIDDLE OF THE STRAND

C. HAIR ROOT

D. HAIR FOLLICLE

E. HAIR ENDS

629

PAGE 9

11. IF AN EXCESS AMOUNT OF HEAT IS USED DURING A THERMAL RELAXING TREATMENT, THE HAIR WILL -----.

A. BE STRAIGHTENED PERMANENTLY

B. LOSE POROSITY

C. BECOME VERY WAVY

D. BECOME EXTREMELY CURLY

E. BREAK

****

PAGE 10

12. THE "BASE" USED DURING CHEMICAL HAIR RELAXING HELPS TO -----.

A. PROTECT THE SCALP

B. PROTECT THE HAIR SHAFT

C. STOP THE RELAXING PROCESS

D. STOP THE FIXING PROCESS

PAGE 11

13. PIN CURLS ARE ALSO KNOWN AS

-----.

A. ROLLER CURLS

B. FINGER CURLS

C. SPIRAL CURLS

D. SCULPTURE CURLS

****

PAGE 12

631

PAGE 13

	ANSWERS	PAGE REF.
1	B	2
2	B	2
3	D	3
4	D	2
5	A	6

****

WINDING

FOOTNOTES

PAGE 5
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PAGE 6
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****

1. THE TYPE OF HAIR WHICH IS BEST SUITED FOR PIN CURLING IS ---.

   A. STRAIGHT, COARSE HAIR

   B. NATURALLY OR PERMANENTLY WAVED HAIR

   C. FINE CURLY HAIR

   D. WIRY, OVER-CURLY HAIR

PAGE 3

2. THE IMMOBILE PART OF THE CURL, ATTACHED TO THE SCALP IS THE -----.

A. STEM

B. BASE

C. CIRCLE

D. MOBILITY

****

PAGE 4

3. THAT PART OF A PIN CURL FOUND BETWEEN THE BASE AND THE FIRST ARC OF THE CIRCLE IS KNOWN AS THE -----.

A. CIRCLE

B. STEM

C. PIVOT

D. STRAND

634

PAGE 5

4. THE CURL RECEIVES ITS DIRECTION, ACTION AND MOBILITY FROM ITS -----.

A. PIVOT

B. BASE

C. CIRCLE

D. STEM

****

PAGE 6

5. THE TYPE OF FACE WHICH HAS THE MOST BECOMING FEATURES WITH ANY TYPE OF HAIRSTYLE WORN IS THE -----.

A. OBLONG FACIAL TYPE

B. PEAR-SHAPED FACIAL TYPE

C. OVAL FACIAL TYPE

D. DIAMOND FACIAL TYPE

PAGE 7

6. HAIR STYLED HIGH ON TOP OF THE HEAD, WITH THE EARS EXPOSED OR WITH THE HAIR FLAT OVER THE EARS, IS BEST FOR THE -----.

A. PEAR-SHAPED TYPE

B. ROUND FACIAL TYPE

C. TRIANGULAR FACIAL TYPE

D. OBLONG FACIAL TYPE

****

PAGE 8

7. KEEPING THE HAIR SHORT AT THE NAPELINE AND GIVING HEIGHT IN THE CROWN AREA CREATES THE ILLUSION OF -----.

A. WIDTH

B. SOFTNESS

C. DEPTH

D. HEIGHT

636

PAGE 9

8. TO CONTROL THE HAIR ENDS DURING WINDING THE HAIR ON ROLLERS, USE -----.

A. HAIR SPRAY

B. END PAPERS

C. ROLLER PINS

D. HAIR CLIPS

****

PAGE 10

9. THE HAIR MUST BE DAMP IF HAIR SHAPING IS TO BE DONE WITH ---.

A. SHEARS

B. CLIPPERS

C. A RAZOR

D. THINNING SCISSORS

PAGE 11

10. IN BASIC HAIR SHAPING, CONSIDER THE NATURAL GROWTH TO THE -----.

A. NATURAL WAVE OF THE HAIR

B. NATURAL HIGHLIGHTS OF THE HAIR

C. AMOUNT OF OIL IN THE HAIR

D. AMOUNT OF COLOR IN THE HAIR

****

PAGE 12

11. THINNING THE HAIR INVOLVES -----.

A. CUTTING IT STRAIGHT OFF

B. BLUNT CUTTING

C. DECREASING THE BULK

D. TRIMMING THE ENDS

638

PAGE 13

12. THINNING THE HAIR BY DIVIDING IT INTO MANY THIN LAYERS IS KNOWN AS -----.

A. CLUB CUTTING

B. SHINGLING

C. LAYER CUTTING

D. CLIPPING

****

PAGE 14

13. A GOOD HAIR SHAPING SERVES AS A FOUNDATION FOR -----.

A. PIN CURLS

B. THINNING

C. ROLLER CURLS

D. SUITABLE COIFFURES

PAGE 15

14. THE MAIN PURPOSE OF HAIR AND SCALP TREATMENTS IS TO -----.

A. CURE CANITIES

B. HARDEN THE TEXTURE OF THE HAIR

C. PRESERVE THE HEALTH OF THE HAIR AND SCALP

D. PRESERVE THE COLOR OF THE HAIR

****

PAGE 16

15. SCALP MASSAGE IS BENEFICIAL BECAUSE IT STIMULATES THE -----.

A. SALIVARY GLANDS

B. BLOOD CIRCULATION

C. PITUITARY GLAND

D. THYROID GLAND

640

PAGE 17

16. WHICH TYPE OF ROD IS USUALLY USED FOR A BODY OR A SUPPORT WAVE? -----

A. LARGE CONCAVE

B. LARGE STRAIGHT

C. SHORT CONCAVE

D. SMALL STRAIGHT

****

PAGE 18

17. A THIO RELAXER BREAKS DOWN THE SULFUR AND HYDROGEN BONDS AND CAUSES THE HAIR TO -----.

A. REHARDEN AND REFORM

B. BECOME OXIDIZED

C. SOFTEN AND SWELL

D. HARDEN AND SWELL

PAGE 19

18. THE TECHNIQUE USED TO STYLE OVERCURLY HAIR INTO NARROW, BRAIDED SECTIONS IS COMMONLY KNOWN AS -----.

A. SECTION BRAIDING

B. CORN ROWING

C. INVISIBLE BRAIDING

D. AFRO STYLING

****

PAGE 20

19. WHICH TEST IS USED TO DETERMINE THE ABILITY OF THE PATRON'S HAIR TO WITHSTAND THE EFFECTS OF THE CHEMICAL STRAIGHTENER? -----

A. HEAT TEST

B. PATCH TEST

C. STRAND TEST

D. TEST CURLS

PAGE 21

20. WHEN APPLYING A LIGHTENER TO VIRGIN HAIR, HOW MANY INCHES AWAY FROM THE SCALP SHOULD THE STYLIST BEGIN THE APPLICATION?

A. 1 TO 2

B. 1-1/2 TO 2-1/2

C. 3/4 TO 1

D. 1/4 TO 1/2

****

PAGE 22

	ANSWERS	PAGE REF.
1	B	0
2	B	0
3	B	0
4	D	0
5	C	0
6	B	0
7	D	0
8	B	0
9	C	0
10	A	0
11	C	0
12	C	0
13	D	0
14	C	0
15	B	0
16	B	0
17	C	0
18	B	0
19	C	0
20	C	0

Supplemental Worksheets

NAME _____ DATE _____

Matching: In the space provided in front of the terms place the CAPITAL LETTER which represents the definition that correctly identifies that term.

____ 1. bacteriology

____ 2. pus

____ 3. pathogenic

____ 4. infection

____ 5. non-patogenic

____ 6. spores

____ 7. parasites

____ 8. active stage

____ 9. saprophytes

____10. spirilla

____11. contagious

____12. cocci

____13. natural immunity

____14. bacilli

A. easily spread from one person to another (communicable)

B. natural resistance to disease

C. round-shaped bacteria

D. science which deals with the study of micro-organisms called bacteria

E. formed by anthrax or tetanus bacilli

F. harmless or beneficial

G. sign of infection

H. causes tetanus, diptheria and tuberculosis

I. lives on dead organic matter

J. disease producing

K. corkscrew-shaped bacteria

L. vegetative cycle of bacteria resulting in growth and reproduction

M. invasion of the body by disease producing bacteria

N. need living matter to survive

BACTERIOLOGY

ANSWER SHEET

1. D
2. G
3. J
4. M
5. F
6. E
7. N
8. L
9. I
10. K
11. A
12. C
13. B
14. H

NAME _____ DATE _____

BACTERIOLOGY

Cross out the word that does not belong.

1. Ways bacteria travel - cilia flagella feet
2. Bacteria classifications - cocci backgammon spirilla
3. Forms of cocci bacteria - bacilli staphylococci diplococci
4. Types of infections - local spores general
5. Chemical agents to destroy bacteria - antiseptic disinfectant deodorant

_____

WORDS

BACTERICIDE

bacteria - germs or microorganisms

cide - to kill or destroy

BACTERICIDE is a chemical that kills or destroys bacteria

GERMICIDE

germ - a microbe or microorganism of bacteria

cide - to kill or destroy

GERMICIDE is a chemical _____

_____

INSECTICIDE

insect - a group of small winged animals including flies, bees and moths.

cide - to kill or destroy

INSECTICIDE means _____

_____

BACTERIOLOGY ANSWER SHEET

Cross Out

1. feet
2. backgammon
3. bacilli
4. spores
5. deodorant

Germicide - a chemical used to destroy germs.

Insecticide - a chemical used to kill or destroy insects.

NAME _____ DATE _____

BACTERIOLOGY

WHERE DOES EACH WORD GO?

I. Types of Bacteria

A. _____

B. _____

II. Characteristics of Bacteria

A. Pathogenic

1. _____

2. _____

3. _____

B. Non-pathogenic

1. _____

2. _____

3. _____

WORDS TO USE.

harmless

harmful

pathogenic

non-pathogenic

saprophytes

parasites

can cause disease

are useful to decompose waste materials

650

BACTERIOLOGY

ANSWERS

I. A. pathogenic

b. non-pathogenic

II. A.1. harmful

2. parasites

3. can cause disease

B.1. harmless

2. saprophytes

3. are useful to decompose waste materials

651

NAME _____ DATE _____

BACTERIOLOGY

WHICH ONE DOES NOT BELONG? CROSS THAT WORD OUT.

1. Types of bacteria - parasite pathogenic non-pathogenic
2. Other names for bacteria - germs microbes sanitize
3. Ways to kill bacteria - sanitize cilia sterilize
4. Living on dead matter - non-pathogenic parasite saprophytes
5. Living on living matter - non-pathogenic parasite pathogenic
6. Harmful bacteria - pathogenic non-pathogenic parasite
7. Harmless or beneficial bacteria - non-pathogenic pathogenic

---

Match the following terms. Place the letter in the space provided.

1. Parasite ____.
2. Bacteria ____.
3. Pathogenic ____.
4. Non-pathogenic ____.
5. Bacteriology ____.
6. Saprophytes ____.

a. is the science that deals with the study of microorganisms

b. are the minute, one-celled vegetable microorganisms found nearly everywhere

c. are beneficial or harmless bacteria

d. live on dead matter and do not produce disease in living organisms

e. bacteria which are harmful because they produce disease

f. live off living material

MICROORANISM

MICRO means very tiny, minute or small

ORGANISM means a living person, animal, or plant

MICROORGANISM means _____

_____

NAME _____ DATE _____

BACTERIOLOGY

Choose the correct response.

1. Germs and microbes are another name for _____.

   a. sanitation
   b. spirilla
   c. bacteria

2. Bacteria can be seen using a(n) _____.

   a. telescope
   b. microscope
   c. pathogenic agent

3. Which type of bacteria makes sterilization and sanitation necessary for the cosmetologist? _____.

   a. pathogenic
   b. non-pathogenic
   c. saprophytes

4. Pathogenic bacteria are capable of limited movement. They move by means of hair-like projections called _____.

   a. cilia and flagella
   b. spirilla and spores
   c. bacilli and parasites

BACTERIOLOGY

ANSWERS

CROSS OUT THESE WORDS.

1. parasite
2. sanitize
3. cilia
4. parasite
5. non-pathogenic
6. non-pathogenic
7. pathogenic

MATCHING

1. f
2. b
3. e
4. c
5. a
6. d

Microorganism means a very tiny or small living plant or animal.

Non-pathogenic means not causing disease. Non-pathogenic bacteria would be bacteria that does not cause disease.

BACTERIOLOGY

ANSWERS

1. c
2. b
3. a
4. a

654

NAME _____ DATE _____

Write the word that best completes each statement in the space provided. Select the words from the list below.

germs	syphillis	human disease carrier	pairs
flagella	cilia	blood poisoning	general
immunity	local	staphylococci	bacilli
protect	microbes	acquired immunity	

1. Bacteria are also known as _____ and _____.
2. A cosmetologist should know when, why and how to utilize sterilization and sanitation to _____ the health of the public and the individual.
3. Pus-forming cocci present in abscesses and boils are called _____.
4. Streptococci are pus-forming organisms found in _____.
5. Diplococci grow in _____ and cause pneumonia.
6. The Treponema pallida causes _____.
7. A boil is an example of a _____ infection.
8. Blood poisoning is an example of a _____ infection.
9. Bacteria move by means of hair-like projections called _____ or _____.
10. Rod-shaped bacteria are called _____.
11. The ability of the body to resist invasion and destroy bacteria once it has entered the body is called _____.
12. The ability of the body to resist disease by having serum injections or by having had the disease is called _____.
13. A person immune to a disease yet harbors the germs to infect another person is called a _____.

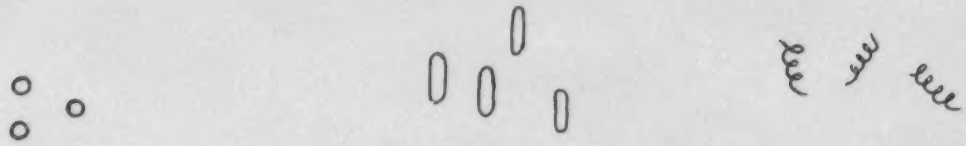
ANSWER SHEET

1. germs microbes
2. protect
3. staphylocci
4. blood poisoning
5. pairs
6. syphillis
7. local
8. general
9. flagella cilia
10. bacilli
11. immunity
12. acquired immunity
13. human disease carrier

NAME _____ DATE _____

BACTERIOLOGY

Label the bacteria



1. _____ 2. _____ 3. _____

The means by which bacteria move. They're hair-like projections.

4. _____

5. _____

Plants or animals which live on living organisms are 6. _____.

Plants or animals which live on dead organisms are 7. _____.

Match the following terms. Place the CAPITAL LETTER which represents the definition that correctly identifies that term.

8. pathogenic _____
9. non-pathogenic _____
10. infection _____
11. immunity _____
12. bacteria _____
13. communicable _____
14. QUATS _____

A. microorganisms, germs or microbes
B. ability of the body to fight disease
C. an invasion of the body disease
D. a chemical disinfectant
E. harmless bacteria
F. harmful bacteria
G. can be transmitted from person to person

BACTERIOLOGY

ANSWERS

1. cocci
2. bacilli
3. spirilla
4. cilia
5. flagella
6. parasite
7. saprophyte
8. F
9. E
10. C
11. B
12. A
13. G
14. D

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NAME _____ DATE _____

BACTERIOLOGY

Which word includes the other words?

QUATS	formalin	disinfectant
injection	immunity	human disease carrier
infection	pus	blood-poisoning
contagious	common cold	flu
ultra-violet rays	disinfectant	sanitize

_____

ASEPSIS

A is a prefix meaning no, none, or not.

SEPSIS means the presence of pathogenic bacteria.

ASEPSIS means _____

_____

_____

Find the word containing the prefix in the sentence below.

Write a short definition of the word.

Susan's behavior was atypical for a student her age.

_____

_____

_____

ANSWER SHEET

BACTERIOLOGY

1. disinfectant
2. immunity
3. infection
4. contagious
5. sanitize

ASEPSIS - free from pathogenic bacteria.

Underline Atypical

not typical - unlike

Susan's behavior was unlike that of other children her age.

THE THEORY OF MASSAGE

1. A massage is given to benefit the skin and scalp. Name three benefits a massage will produce.

   A. _____

   B. _____

   C. _____

2. Under what circumstances should a massage not be given?

   A. _____

   B. _____

   C. _____

True or False

___3. Always use the end of the fingertips for all massage strokes.

___4. A cosmetologist may give a massage to the scalp, face or arms and hands of a patron.

___5. For a relaxing massage the cosmetologist should use an effleurage stroking movement.

___6. A series of massages over a period of months can actually reduce fatty tissues.

___7. Petrissage is a deep rubbing massage movement.

___8. A massage may be harmful to the skin and scalp if given improperly.

___9. Hacking strokes should be used as part of a facial massage.

__10. Motor points should be avoided when giving a massage.

__11. Name three electrical appliances that may be used during a massage.

   A. _____

   B. _____

   C. _____

THE THEORY OF MASSAGE

ANSWERS

1. A. exercise muscles
   B. maintains muscle tone
   C. stimulates circulation

A patron should not be given if a patron has

2. A. a heart condition
   B. high blood pressure
   C. abrasions or open cuts

3. False - Fingertips are not able to control the amount of pressure.

4. True

5. True

6. True

7. False - Petrissage is a kneading stroke. Friction is a deep rubbing stroke.

8. True

9. False - Hacking strokes are used to massage the back or shoulders.

10. False - Massage strokes applied to motor points will provide greater relaxation.

11. A. vibration
    B. heating cap
    C. facial steamer

THE VOCABULARY OF MASSAGE STROKES

DIRECTIONS: Each of the scrambled words below is followed by a definition. Read each definition. Then unscramble the letters to produce a word corresponding to the definition. Write the word in the blank provided.

1.	eefflrugea	the light stroking movement	1. _____
2.	niiaovbrt	the rapid shaking movement	2. _____
3.	tttapeomen	the slapping or tapping movement, very stimulating	3. _____
4.	tonfriic	the deep rubbing movement	4. _____
5.	egssatreip	the kneading movement by the fingers and palms	5. _____
6.	rabtorvi	an electrical device which is very stimulating	6. _____
7.	gamessa	the manipulation of the skin to promote increased circulation, etc.	7. _____
8.	noitalucric	a massage will cause an increase of the blood flow. This blood flow is called?	8. _____
9.	srtkonig	a light movement over the surface of the skin	9. _____
10.	gipsternif	these are used to give a massage	10. _____

THE VOCABULARY OF MASSAGE STROKES - ANSWER SHEET

1. effleurage
2. vibration
3. tapotement
4. friction
5. petrissage
6. vibrator
7. massage
8. circulation
9. stroking
10. fingertips

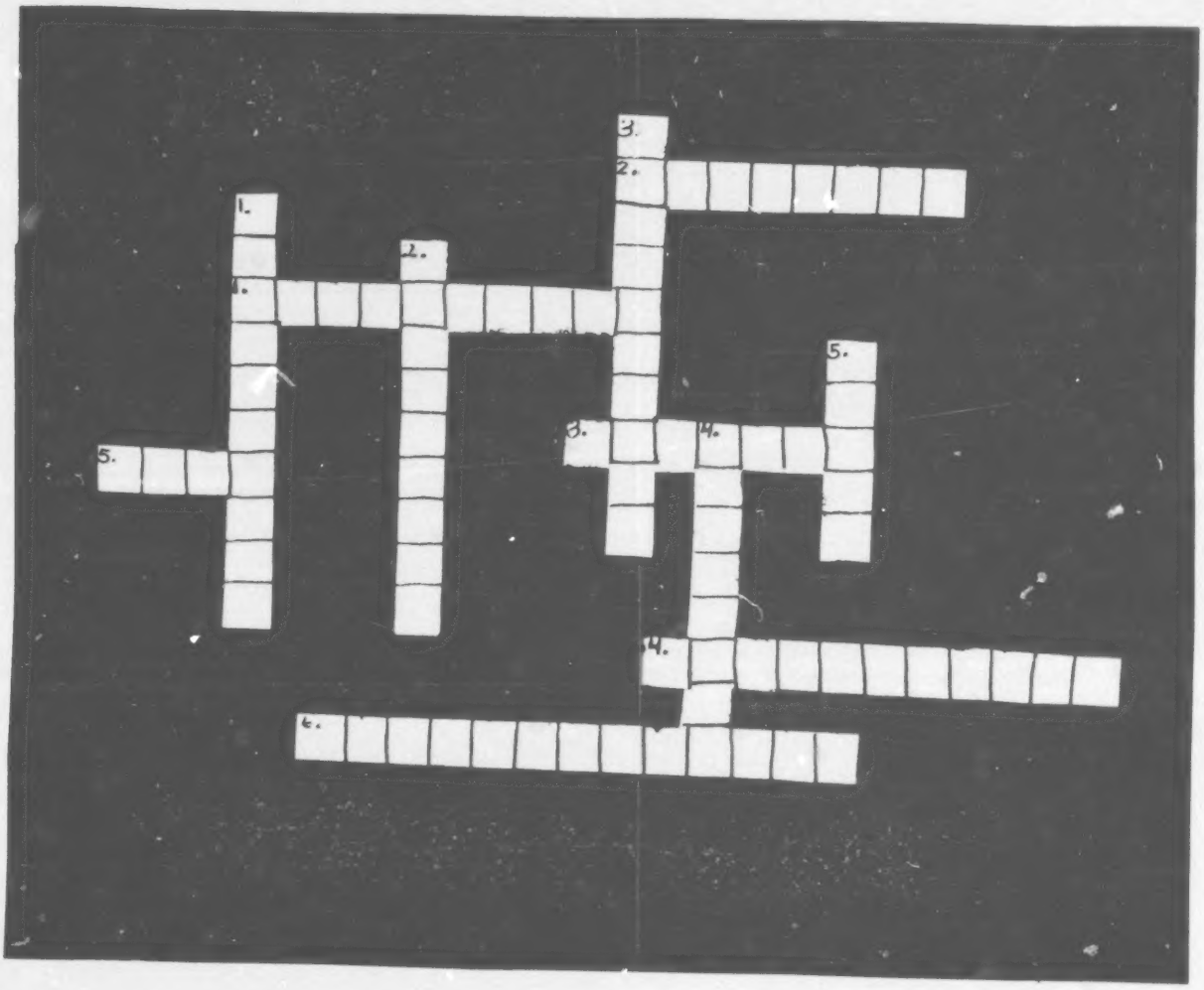
MASSAGE TREATMENTS

DOWN

1. A stimulating massage stroke, a tapping or slapping stroke.
2. A very stimulating massage stroke caused by the rapid shaking of the hands and arms of the cosmetologist.
3. A light stroking, very soothing and relaxing.
4. Used in a massage, the gliding movement with the fingers or palms over the surface of the skin.
5. A _____, ointment or oil may be applied before the massage begins.

ACROSS

1. A kneading, rolling and pinching of the skin.
2. A deep rubbing that produces a pressure on the skin.
3. One of the oldest methods of physical treatment used to improve circulation, and relax muscles.
4. A good massage will increase this.
5. A part of the body used in giving a massage.
6. Someone who might give a massage.



CROSSWORD ANSWER KEY

MASSAGE TREATMENTS

MASSAGE- BASIC MOVEMENTS

```
I Q V X D U U G Z E B Q H T Z P H Q H C
V W S W Q H N F G B V I B R A T I O N J
B R W Y M I A A P E T R I S S A G E N F
J U S H K P R O L L I N G Z W N T G U O
H I Q C X U H Y A Z S G H B E V C E C P
Z W U V E R O W D B Y R E T Q N O Q V N
I H R L C D B C H E N U M X G U B C X F
C J F I A D O G L W H L N R H C B D W M
B F Y W N Y B Y Z H M N V J T N I V G T
E R N R L G J U P I Q Z Q E D R V N H W
A E F E X I I G R M X D C G U A O L A C
F N V A K L I N S N N R W E W I H S C L
F H B Q F E T L G H T P G U T E M F K D
G B H S G E W U F P Q V C C U T H R I X
W Q P B N P Q K C V U B I R R R A D N T
P N X C Q B M R U H K R E V J B X N G Y
O S F U R S Z G R M F U L L I N G Q I V
D H Z O B C P K U N P P Z V X G L K D X
Y V S V L E F Z Q K O Y X A H P I G S Q
A S Q V T A P O T E M E N T A Y Y Z J S
```

THERE ARE 10 WORDS HERE - CAN YOU FIND THEM?

HERE ARE THE WORDS TO LOOK FOR:

CHUCKING
FRICTION
HACKING
ROLLING
VIBRATION
EFFLEURAGE
FULLING
PETRISSAGE
TAPOTEMENT
WRINGING

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MASSAGE- BASIC MOVEMENTS

```
. . . . . . . G . E . . . . . . . . . .
. . . . . . N . G . V I B R A T I O N .
. . . . . I . A P E T R I S S A G E . .
. . . . K . R O L L I N G . . . . . . .
. . . C . U . . . . . . . . . . . . . .
. W U . E . . . . . . . . . . . . . . .
. H R L . . . . . . . . . . . . . . . .
C . F I . . . . . . . . . . . . . . . .
. F . . N . . . . . . . . . . . . . . .
E . . . . G . . . . . . . . . . . N H .
. . . . . I . . . . . . . . . . O . A .
. . . . . N . . . . . . . . I . . C .
. . . . . G . . . . . T . . . K .
. . . . . C . . . . I .
. . . . . I . . . . . N .
. . . . . R . . . . . G .
. . . . . F U L L I N G . . .
. . . . . .
. . . . . .
. . . . T A P O T E M E N T . . . . . .
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THE CHEMISTRY OF COSMETICS

The chemistry of cosmetics involves studying the composition of the products used to cleanse and beautify your patrons. Included are all the items used on the skin, hair and nails.

Federal and state law requires manufacturers to list the ingredients of each product on the label or on the literature which accompanies the product. If a patron is allergic to a product the ingredients must be known by the doctor to secure an antidote. (An antidote is a medicine which counteracts the the effects of an allergic reaction.)

Below are labels taken from STRIKE ME BEAUTIFUL cosmetics.

SKIN TONING LOTION

Used by men and women to remove any soil or residue left on skin after cleansing. While improving skin tone it also closes pores and stimulates the skin. After normal cleansing saturate a small piece of cotton with Skin Toning Lotion. Avoiding eyes, pat gently over face and throat.

Ingredients: purified water, SD alcohol 40B, witch hazel, fragrance, sorbitol, glycerin, citric acid.

Net Wt. 8 oz. (226.8 gms)

VITA E CREME

A great moisturizing creme that leaves your skin looking petal smooth. Perfect for any type of complexion. Apply gently with fingertips over entire face and throat. Use daily under make-up to maintain that flawless look.

Ingredients: purified water, mineral oil, stearic acid, glyceryl stearate + PEG-1000 stearate, sorbitol, wheat germ oil, laneth-5, choleth-24, vitamin E acetate, fragrance, methyl paraben, propyl, 2-bromo-2-nitropropane-1, 3 diol.

Net Wt. 2 oz. (56.7 gms)

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POWDER ROUGE

or

BLUSHER

Apply on cheekbone and blend evenly

Ingredients: ISOPROPYL PALMITATE, LANOLIN OIL, MINERAL OIL PETROLATUM, TALC, MICA, TITANIUM DIOXIDE, CERESIN, PROPYLPARABEN, B.H.A. MAY CONTAIN D&C RED 9, BARIUM LAKE, D&C RED 19 ALUMINUM LAKE, D&C RED 7 CALCIUM LAKE, D&C RED 12 BARIUM LAKE, IRON OXIDE.

.15 oz.

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NAME _____ DATE _____

THE CHEMISTRY OF COSMETICS

1. If a patron was allergic to citric acid, which of the products should not be used?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

2. If you were allergic to perfume fragrances added to cosmetics, which of the products could you use?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

3. If a patron was allergic to stearic acid, which of the products should not be used?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

4. Which of the products has the largest net weight?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

5. Which product should be applied to the skin using a piece of cotton?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

6. Which product contains red dye and color number seven?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

7. Which product closes pores and stimulates the skin?

   a. Skin Toning Lotion
   b. Vita E Creme
   c. Powder Rouge

THE CHEMISTRY OF COSMETICS

ANSWERS:

1. a. Skin Toning Lotion
2. c. Powder Rouge
3. b. Vita E Creme
4. a. Skin Toning Lotion
5. a. Skin Toning Lotion
6. c. Powder Rouge
7. a. Skin Toning Lotion

CHEMISTRY

NAME _____ DATE _____

CHEMISTRY	NON-METAL	PHYSICAL	MIXTURE
CARBON	7	ANALYSIS	ALKALINITY
SPACE	INORGANIC	20	OILY
ACID	BASE	VEGETABLE	GUM
SYNTHESIS	H_2O_2	SOAP	
40	OXIDIZING AGENT	DRY	
U.S. PHARMACOPEIA	RELAXERS	SODIUM CARBONATE	
ALCOHOL	SODIUM PHOSPHATE	ORGANIC	
RAIN	ACIDITY	OXYGEN	

Complete the following sentences by inserting the correct word or words in the spaces. Use the words from the list provided above.

1. _____ is the science which treats the composition of substances and the change these substances may undergo.
2. _____ material is derived from animal and _____ sources.
3. Organic chemistry deals with _____ and its compounds.
4. _____ chemistry deals with substances of mineral extraction.
5. Matter is that which occupies _____.
6. A(n) _____ change is an alteration of the properties without the formation of any new substances.
7. A(n) _____ change is an alteration of the properties without the formation of any new substances.
8. Oxides are compounds of any element with _____.
9. A(n) _____ is a compound of a metal, oxygen and hydrogen.
10. A(n) _____ is a compound of hydrogen, non-metal and sometimes oxygen.
11. Salts are a compound of a metal, _____ and sometimes oxygen.
12. _____ is a process in which a substance or compound is separated into its component parts or elements.
13. _____ is a process in which two or more substances combine to form an entirely new compound.
14. A(n) _____ is a combination of substances which retain their individual identities as separate substances.
15. The chemical symbol for hydrogen peroxide is _____.

16. _____ to _____ volume peroxide is used as a bleaching agent for hair.

17. A(n) _____ agent is a substance which readily gives up its oxygen.

18. The potential hydrogen (pH) of a liquid refers to its degree of _____ or alkalinity.

19. The number value which denotes "neutral" on the pH scale is _____.

20. Hard water may be softened by the use of a chemical called _____.

21. The _____ is a book defining and standardizing drugs.

22. _____ shampoos are usually made from olive or coconut oil.

23. _____ rinses help to neutralize the alkalinity of soap residues on hair.

24. Lotions for a(n) _____ scalp should contain a high percentage of _____ and ingredients which possess astringent properties.

25. Lotions for a(n) _____ scalp are made from emulsified, vegetable or animal oils.

26. Chemical hair straighteners are mainly _____ in their chemical reaction on the hair.

27. Setting lotions are made by the combination of a mucilage and karaya _____.

28. _____ water is the softest water found.

29. On the pH scale the numbers ranging from 0 to _____ denote _____, while the numbers _____ to 14 denote _____.

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CHEMISTRY (KEY)

1. chemistry
2. organic - vegetable
3. carbon
4. inorganic
5. space
6. physical
7. chemical
8. oxygen
9. base
10. acid
11. non-metal
12. analysis
13. synthesis
14. mixture
15. H_2O_2
16. 20 to 40
17. oxidizing
18. acidity
19. 7
20. sodium phosphate
21. U.S. Pharmacopeia
22. soap
23. acid
24. oily - alcohol
25. dry
26. relaxers
27. gum
28. rain
29. 7 - acidity, 7 - alkalinity

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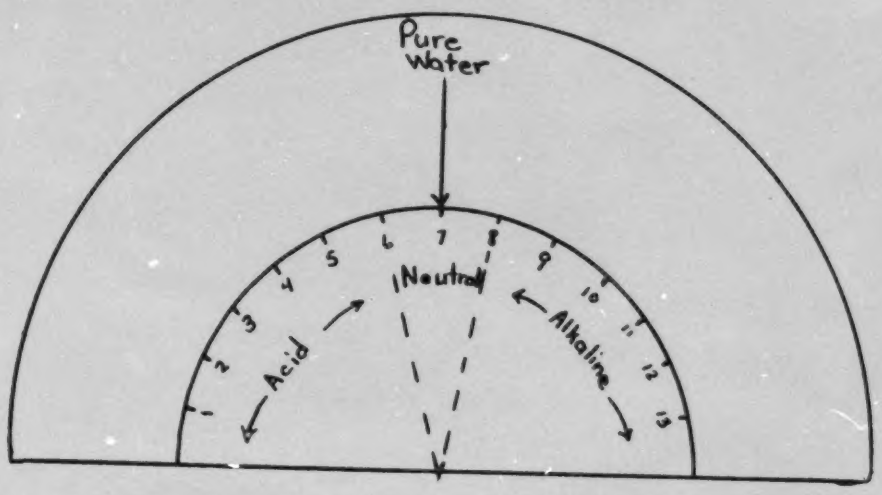
NAME_____ DATE_____

ACIDITY AND ALKALINITY

LOCATED ON THE pH SCALE BELOW THESE COMMONLY USED CHEMICALS.

1. Cold wave solutions are usually alkaline up to 9.5.
2. Neutralizers are always acid.
3. Soaps up to 9.5 are safely used on patrons.
4. Shampoos are from 6 to 10.
5. Depilatories, used to remove hair from the body, are above 10.



SELECT THE pH VALUE FOR THE FOLLOWING ITEMS USED IN A SALON.

1. Lemon juice would have a pH value of _____.

   2.1 or 7.6

2. Nair Creme Hair Remover would have a pH value of _____.

   12.6 or 1.2

3. Clairol Herbal Essence shampoo might have the pH value of _____.

   3.5 or 8.0

4. A soap with a pH value of _____ is unsafe to use on patrons.

   7.0 or 13.5

ANSWER SHEET

ACIDITY AND ALKALINITY

1. 2.1

2. 12.6

3. 8.0

4. 13.5

CHEMISTRY - COMMON CHEMICALS FOUND IN A SALON

Match the following:

_____	1. alcohol	A.	forms formalin in a water solution
_____	2. alum	B.	also known as washing soda
_____	3. ammonia water	C.	also known as baking soda
_____	4. sodium bicarbonate	D.	also known as cosmetic potash
_____	5. sodium carbonate	E.	also known as carbolic acid
_____	6. bichloride of mercury	F.	70% solution is used for sterilization of metallic instruments
_____	7. boric acid	G.	used as a styptic
_____	8. formaldehyde	H.	need a dusting powder or skin ointment
_____	9. glycerine	I.	astringent combined with alcohol
_____	10. tincture of iodine	J.	excellent skin softener
_____	11. phenol	K.	by-product of the manufacture of coal gas
_____	12. potassium hydroxide	L.	very strong poison
_____	13. sine oxide	M.	cleansing lotion and eye wash
_____	14. witch hazel	N.	used to treat minor cuts and abrasions
_____	15. quaternary ammonium compounds	O.	represent disinfectant widely used in beauty salons

CHEMISTRY - COMMON CHEMICALS FOUND IN A SALON

Match the following:

F	1.	alcohol
G	2.	alum
K	3.	ammonia water
C	4.	sodium bicarbonate
B	5.	sodium carbonate
L	6.	bichloride of mercury
M	7.	boric acid
A	8.	formaldehyde
J	9.	glycerine
N	10.	tincture of iodine
E	11.	phenol
D	12.	potassium hydroxide
H	13.	sine oxide
I	14.	witch hazel
O	15.	quaternary ammonium compounds

A. forms formalin in a water solution

B. also known as washing soda

C. also known as baking soda

D. also known as cosmetic potash

E. also known as carbolic acid

F. 70% solution is used for sterilization of metallic instruments

G. used as a styptic

H. need a dusting powder or skin ointment

I. astringent combined with alcohol

J. excellent skin softener

K. by-product of the manufacture of coal gas

L. very strong poison

M. cleansing lotion and eye wash

N. used to treat minor cuts and abrasions

O. represent disinfectant widely used in beauty salons

AVON'S CONSUMER GUIDE TO COSMETIC INGREDIENTS

MINERAL OIL, KAOLIN, RE
STEARATE, SODIUM OLE
A, FRAGRANCE, TITANI
OXIDES, ULTRAMARI

747 679

We're happy to provide you with this guide, which will assist you in determining what ingredients are most frequently used in Avon products. It will help you to better understand the individual ingredients that make up a cosmetic product.

All ingredients used in Avon products must be of the highest quality and purity and meet our stringent quality-control specifications.

We urge you to carefully read the information provided on product labels and packages. The product label will tell you if a product contains ingredients you know you must avoid because of your own sensitivities.

All ingredient information listed on this chart conforms to Food and Drug Administration standardized terminology. Thus, there is no possibility that the same ingredient might appear under two different names on two different labels. All manufacturers must use the same names for the same ingredients.

NOTE: Ingredients listed on Avon products are listed in declining order of their predominance in each product.

How to use this guide.

The ingredients most frequently used in Avon products are listed in alphabetical order. Next to each ingredient is a code letter. Use this letter to find the section of the chart where this category of ingredient is explained.

If you do not find the ingredient you are looking for on this list, write to:

Avon Products, Inc.
Consumer Information Center
9 West 57th Street
New York, N.Y. 10019

Open for Ingredient Functions ▸

Ingredient List

Ingredient	Type
Acrylate/Acrylamide Copolymer	J
Aluminum Chlorohydrate	D
Aluminum Distearate	E
Ammonium Laureth Sulfate	Q
Ammonium Nonoxynol-4 Sulfate	Q
Amphoteric-2	Q
Amyl Dimethyl PABA	R
Animal Protein Derivative	M
Beeswax	H
Bentonite	S
Benzoic Acid	B
Benzophenone-1	T
Benzophenone-2	T
Benzophenone-4	T
Benzophenone-9	T
Benzophenone-11	T
Benzophenone-12	T
BHA	C
BHT	C
Bismuth Oxychloride	F
Borax	B
Boric Acid	B
2-Bromo-2 Nitro-1,3-Propanediol	B
Butane	P
Butyl Acetate	S
Butyl Alcohol	S
Butylene Glycol	M
Calcium Carbonate	A
Candelilla Wax	H
Caprylic/Capric Triglyceride	H
Carbomer-934	S
Carbomer-940	S
Carbomer-941	S
Carnauba	H
Castor Oil	H
CD Alcohol 19	S
Cellulose Gum	S
Ceteth-2	I
Cetrimonium Bromide	G
Cetyl Lactate	H
Cetylpyridinium Chloride	G
Cetyltrimethylammonium Bromide	B

Ingredient	Type
Chromium Hydroxide Green	F
Chromium Oxide Greens	F
Citric Acid	B, O
Dehydroacetic Acid	B
Dibutyl Phthalate	S
Diisopropyl Adipate	H
Dimethicone	H
Dioctyl Sodium Sulfosuccinate	Q
Ethyl Acetate	S
Ethylene/Vinyl Acetate Copolymer	J
Ethylhexyl Palmitate	H
Ferric Ferrocyanide	F
Formaldehyde	B
Fragrance Oils	U
Glycerin	M
Glyceryl Stearate	I
Glycol Stearate	I
Guanine	F
Gum Damar	S
Hydrated Silica	A
Hydrogenated Vegetable Oil	H
Hydrolyzed Animal Protein	L
Hydroxyethyl Cellulose	S
Hydroxypropyl Cellulose	S
Imidazolidinyl Urea	B
Iron Oxides	F
Isobutane	P
Isodecyl Oleate	H
Isopropyl Alcohol	S
Isopropyl Lanolate	H
Isopropyl Myristate	H
Isopropyl Palmitate	H
Isopropyl Stearate	H
Kaolin	E, F
Laneth-10 Acetate	I
Lanolin	H
Lanolin Alcohols	H
Lanolin Wax	H
Lauramide DEA	K
Lauric DEA	K
Lecithin	I
Linoleamide DEA	K

(K) Foamers & Foam Stabilizers:
Lauramide DEA, Lauric DEA, Linoleamide DEA, PEG-15 Cocamine.
Function:
Create good, long-lasting foaming properties.

(L) Hair Conditioners:
Hydrolyzed Animal Protein, Quaternium-18, -20, -23, Stearalkonium Chloride, Stearamine Oxide.
Function:
Improve ease of combing, control flyaway hair and impart sheen.

(M) Humectants:
Animal Protein Derivative, Butylene Glycol, Glycerin, Propylene Glycol, Sodium Lactate, Sodium PCA, Sorbitol, Triethylene Glycol.
Function:
Skin conditioners which attract water, thereby further helping to maintain the skin's moisture balance.

(N) Mineral Suspending Agents:
Pentasodium Pentetate, Tetrasodium EDTA, Trisodium HEDTA.
Function:
Ingredients which bind minerals commonly found in hard water which would otherwise deteriorate the product.

(O) pH Adjusters:
Citric Acid, Phosphoric Acid, Triethanolamine.
Function:
Control how acid (low pH) or alkaline (high pH) a product is.

(P) Propellants:
Butane, Isobutane, Propane.
Function:
Force a product out of an aerosol container in the form of a spray, mist or foam.

(Q) Soaps & Detergents:
Ammonium Laureth Sulfate, Ammonium Nonoxynol-4 Sulfate, Amphoteric-2, Dioctyl Sodium Sulfosuccinate, Magnesium Lauryl Sulfate, Nonoxynol-12, Pareth-25-12, Sodium Cocoate, Sodium Laureth Sulfate, Sodium Lauryl Sulfate, Sodium Oleate, Sodium Tallowate, TEA-Lauryl Sulfate.
Function:
Cleansing materials which break up and hold oils and soil so that they may be removed easily from skin or hair surface.

(R) Sunscreens:
Amyl Dimethyl PABA, Octyl Dimethyl PABA.
Function:
Absorb ultraviolet light from sun's rays to help prevent or lessen sunburn while allowing the skin to tan.

(S) Thickeners/Solidifiers/Liquidifiers:
Bentonite, Butyl Acetate, Butyl Alcohol, Carbomer-934, -940, -941, CD Alcohol 19, Cellulose Gum, Dibutyl Phthalate, Ethyl Acetate, Gum Damar, Hydroxyethyl Cellulose, Hydroxypropyl Cellulose, Isopropyl Alcohol, Magnesium Aluminum Silicate, Magnesium Silicate, Methylcellulose, Mineral Spirits, SD Alcohols, Toluene, Water.
Function:
Make a product become thicker (less watery), thinner (more watery) or even solid (as in a lipstick).

(T) Ultraviolet Absorbers:
Benzophenones-1, -2, -4, -9, -11, -12, UV Absorbers-1, -5.
Function:
Ingredients which help prevent deterioration of those ingredients which might be affected by the ultraviolet rays found in ordinary daylight.

(U) Fragrances:
Fragrance Oils (these are a complex blend of oils that provide a particular scent).
Function:
Impart a scent to a product, the skin or the air.

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Ingredient Functions

(A) Anti-Caking Agents:
Calcium Carbonate, Hydrated Silica, Magnesium Carbonate, Silica.
Function:
Keep loose powders free-flowing.

(B) Antimicrobials:
Benzoic Acid, Borax, Boric Acid, Cetyltrimethylammonium Bromide, Citric Acid, Dehydroacetic Acid, Formaldehyde, Imidazolidinyl Urea, Methylparaben, Propylparaben, Sorbic Acid, Triclosan, 2-Bromo-2-Nitro-1, 3-Propanediol.
Function:
Preservatives which help destroy and prevent growth of microorganisms such as bacteria.

(C) Antioxidants:
BHA-Butylated Hydroxyanisole, BHT-Butylated Hydroxytoluene.
Function:
Preservatives which help prevent deterioration of such ingredients as fragrance oils and emollients which can result in off-odor, off-color or product separation which can occur if these ingredients react with oxygen in the air.

(D) Antiperspirants:
Aluminum Chlorohydrate.
Function:
Help inhibit the flow of perspiration.

(E) Binders:
Aluminum Distearate, Kaolin, Zinc Stearate.
Function:
Hold loose powders together when compressed into a solid cake form.

(F) Color Additives & Opacifiers:
Any ingredient prefixed by FD&C, D&C, or Ext. D&C are color additives certified by the FDA. Others include: Bismuth Oxychloride, Chromium Hydroxide Green, Chromium Oxide Greens, Ferric Ferrocyanide, Guanine, Iron Oxides, Kaolin, Mica, Talc, Titanium Dioxide, Ultramarines, Zinc Oxide, Zinc Stearate.
Function:
Impart color and/or increase coverage.

(G) Deodorants:
Cetrimonium Bromide, Cetylpyridinium Chloride, Triclocarban, Triclosan, Zinc Phenosulfonate.
Function:
Mask or decrease perspiration odors and/or help prevent their development.

(H) Emollients:
Beeswax, Candelilla Wax, Caprylic/Capric Triglyceride, Carnauba, Castor Oil, Cetyl Lactate, Diisopropyl Adipate, Dimethicone, Ethylhexyl Palmitate, Hydrogenated Vegetable Oil, Isodecyl Oleate, Isopropyl Lanolate, Isopropyl Myristate, Isopropyl Palmitate, Isopropyl Stearate, Lanolin, Lanolin Alcohols, Lanolin Wax, Microcrystalline Wax, Mineral Oil, Myristyl Myristate, Oleyl Alcohol, Ozokerite, Paraffin, Petrolatum, Propylene Glycol Dicaprylate/Dicaprate, Sesame Oil, Stearyl Alcohol, Talc, Wool Wax Alcohols.
Function:
Skin conditioners which help prevent or relieve dryness and protect the skin by softening, conditioning, lubricating and minimizing moisture loss.

(I) Emulsifiers:
Ceteth-2, Glyceryl Stearate, Glycol Stearate, Laneth-10 Acetate, Lecithin, Oleth-10, PEG-6, PEG-32, PEG-32 Stearate, PEG-40 Hydrogenated Castor Oil, PEG-40 Stearate, PEG-75 Lanolin, Polysorbates 20, 60 & 80, PPG-12-Buteth-16, PPG-14 Butyl Ether, PPG-33 Butyl Ether, Propylene Glycol Stearate SE, Sorbitan Sesquioleate, Sorbitan Stearate, Stearamide DIBA Stearate, Steareth-2.
Function:
Enable oil and water to mix together to form a smooth lotion or cream.

(J) Film Formers:
Acrylate/Acrylamide Copolymer, Ethylene/Vinyl Acetate Copolymer, Nitrocellulose, Polyvinylpyrrolidone (PVP), PVP/VA Copolymer, Toluenesulfonamide/Formaldehyde Resin.
Function:
Provide a continuous film to decorate (nail enamels) or to control (as in hair sprays).

Ingredient	Type
Magnesium Aluminum Silicate	S
Magnesium Carbonate	A
Magnesium Lauryl Sulfate	Q
Magnesium Silicate	S
Methylcellulose	S
Methylparaben	B
Mica	F
Microcrystalline Wax	H
Mineral Oil	H
Mineral Spirits	S
Myristyl Myristate	H
Nitrocellulose	J
Nonoxynol-12	Q
Octyl Dimethyl PABA	R
Oleth-10	I
Oleyl Alcohol	H
Ozokerite	H
Paraffin	H
Pareth-25-12	Q
PEG-6	I
PEG-15 Cocamine	K
PEG-32	I
PEG-32 Stearate	I
PEG-40 Hydrogenated Castor Oil	I
PEG-40 Stearate	I
PEG-75 Lanolin	I
Pentasodium Pentetate	N
Petrolatum	H
Phosphoric Acid	O
Polysorbate-20	I
Polysorbate-60	I
Polysorbate-80	I
PPG-12-Buteth-16	I
PPG-14 Butyl Ether	I
PPG-33 Butyl Ether	I
Propane	P
Propylene Glycol	M
Propylene Glycol Dicaprylate/ Dicaprate	H
Propylene Glycol Stearate SE	I
Propylparaben	B
PVP	J
PVP/VA Copolymer	J
Quaternium-18	L
Quaternium-20	L
Quaternium-23	L
SD Alcohols	S
Sesame Oil	H
Silica	A
Sodium Cocoate	Q
Sodium Lactate	M
Sodium Laureth Sulfate	Q
Sodium Lauryl Sulfate	Q
Sodium Oleate	Q
Sodium PCA	M
Sodium Tallowate	Q
Sorbic Acid	B
Sorbitan Sesquioleate	I
Sorbitan Stearate	I
Sorbitol	M
Stearalkonium Chloride	L
Stearamide DIBA Stearate	I
Stearamide Oxide	L
Steareth-2	I
Stearyl Alcohol	H
Talc	F, H
TEA-Lauryl Sulfate	Q
Tetrasodium EDTA	N
Titanium Dioxide	F
Toluene	S
Toluenesulfonamide/ Formaldehyde Resin	J
Triclocarban	G
Triclosan	B, G
Triethanolamine	O
Triethylene Glycol	M
Trisodium HEDTA	N
Ultramarines	F
UV Absorbers-1, -5	T
Water	S
Wool Wax Alcohols	H
Zinc Oxide	F
Zinc Phenolsulfonate	G
Zinc Stearate	F

AVON

Avon Products, Inc. • Consumer Information Center • 9 W 57th Street • New York, N.Y. 10019

CHEMISTRY

NAME _____ DATE _____

Using Avon's Consumer Guide to Cosmetic Ingredients, answer the following questions:

1. Describe the differences between "anti-caking" and "binders".

_____

_____

_____

_____

2. Which of the following would be added to face creams to insure lubricating and moisturizing qualities?
   A. Emulsifiers
   B. Binders
   C. Humectants
   D. Emollients

3. If a patron was allergic to sodium tallowate, which types of cosmetic labels should the cosmetologist check before recommending a particular product?
   A. Hair Spray
   B. Cleansing soaps or bars
   C. Loose Face Powder
   D. Lipstick

4. Which of the categories below would not be found in a can of deodorant?
   A. Fragrances
   B. Propellants
   C. Deodorants
   D. Antiperspirants
   E. Humectants

5. Why might an antimicrobial agent such as sorbic acid be added to a cosmetic?

_____

_____

_____

6. Matching - Column A contains various types of cosmetics. Match the cosmetic with the category of ingredient (Column B) each is likely to contain.

COLUMN A	COLUMN B
___ 1. Shaving Cream	A. Ultraviolet Absorbers
___ 2. Sunscreen	B. Color Additives & Pacifiers
___ 3. Nail Polish	C. Film Formers
___ 4. Lipstick	D. Humectants
___ 5. Moisture Cream	E. Foamers & Foam Stabilizers

CHEMISTRY (KEY) Avon's Consumer Guide to Cosmetic Ingredients

1. Both could be used in different types of powders, face or body. An anti-caking agent is used to keep loose powders free flowing. They would be used in loose face powder, baby powder or body powder. Binders are used when the powder is in a cake form. Binders hold loose powder together when they are compressed into a solid powder cake.

2. D - Emollients

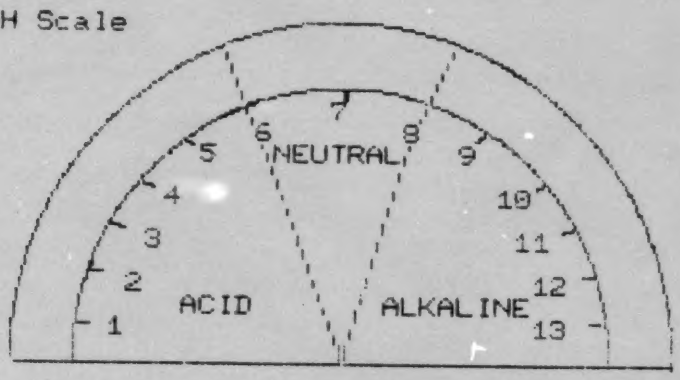
3. B - Cleansing soaps or bars

4. E - Humectants

5. Antioxidants are used as a preservative to protect against the growth of bacteria or germs in cosmetics.

6. 1 - E
   2 - A
   3 - C
   4 - B
   5 - D

pH SCALE



1. The pH scale ranges from _____ to _____.

2. On the pH scale acid solutions would range from _____ to _____.

3. On the pH scale, the closer to 0 a solution is the _____ the acid.

4. A _____ test is used to check the pH of a liquid.

MATCH

5. Blood _____

6. Pure Water _____

7. Skin _____

8. Citric Acid _____

9. Ammonia Water _____

10. Vinegar _____

A. Acid

B. Alkaline

C. Neutral

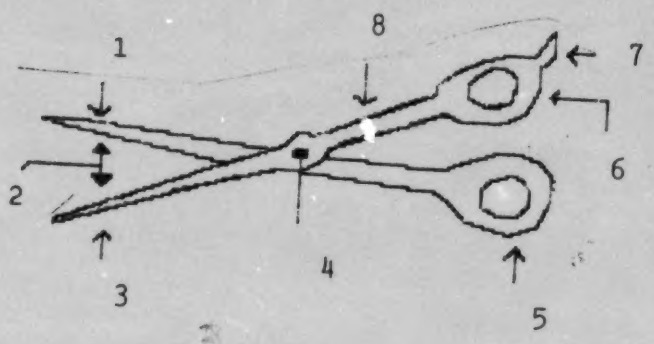
pH SCALE

ANSWER SHEET

1. 0 to 14
2. 0 to 7 - 7 to 14
3. stronger
4. litmus
5. B
6. C
7. A
8. A
9. B
10. A

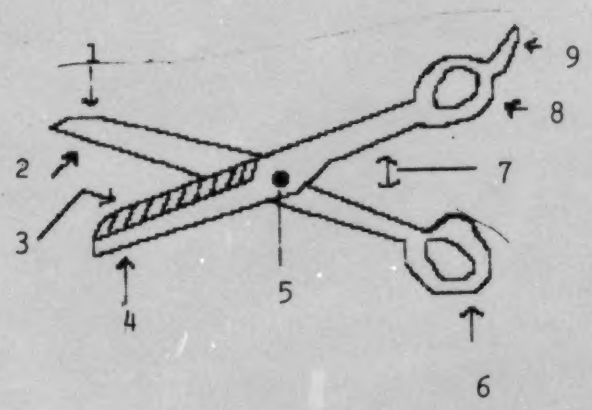
HAIR SHAPING

1. Label the parts of the shears.



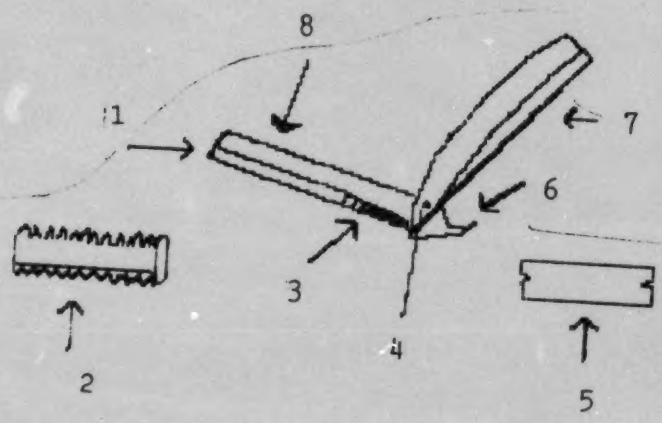
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

2. Label the parts of the thinning shears.



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

3. Label the parts of the razor.



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

HAIR SHAPING INSTRUMENTS

1. Mobile blade
2. Cutting edges
3. Still blade
4. Tension screw
5. Thumb grip
6. Finger grip
7. Tang or finger brace
8. Shank

1. Mobile blade
2. Cutting blade
3. Taper blade
4. Still blade
5. Tension screw
6. Thumb grip
7. Shank
8. Finger grip
9. Finger brace

1. Blade slot
2. Blade guard
3. Thumb grip
4. Pivot screw
5. Blade
6. Tang
7. Handle
8. Shank

NAME _____ DATE _____

Match the following terms. Place the Capital letter in the space provided.

___ hairstyling
___ hairstylist
___ hair shaping
___ dry cutting
___ scissors cutting
___ basic hair shaping
___ guideline
___ shingling
___ thinning
___ tapering
___ slithering
___ trimming
___ blunt cutting
___ layer cutting
___ razor cutting
___ natural hairline
___ featheredge
___ back-combing
___ neck trim

A. hairline is left as is in short style cut

B. cutting hair close to nape of neck, gradually getting longer towards the crown

C. cutting the hair with scissors

D. cutting wet hair with the razor

E. cutting and shaping neck hair into a V, oval, etc.

F. nape hair is shingled in an upward effect

G. process of thinning the hair using scissors

H. shortening the hair in a graduated effect

I. art of arranging the hair in becoming styles

J. cutting hair with scissors while it is dry

K. cutting hair straight off

L. cutting hair to medium length that lends itself to many styles

M. strands of hair cut to a precise length

N. one who has the artistic ability to create styles

O. process of thinning, tapering, and shortening hair

P. decreasing thickness of hair where too heavy

Q. removing split ends

R. tapering and thinning the hair by dividing into many thin layers

S. combing short strands of hair toward the scalp

ANSWER SHEET

I

N

O

J

C

L

M

B

P

H

G

Q

K

R

D

A

F

S

E

HAIR SHAPING TERMS

____1. tapering

____2. slithering

____3. trimming

____4. blunt cut

____5. layer cut

____6. razor cut

____7. natural hairline

____8. featheredge

____9. back-combing

___10. neck trim

A. Tapering and thinning the hair by dividing it into many thin layers.

B. When the hair at the nape of the neck is shingled in a graceful upward effect, and the neck is cleaned with scissors, razor or clippers.

C. Combing the hair toward the scalp, also known as teasing, matting and french lacing.

D. Where no artificial hairline is created in short hairstyle, the hair at the nape of the neck is left in its natural hairline.

E. The removing of split hair ends or cutting the extreme ends of the hair with the scissors.

F. Shortening the hair in a graduated effect, also known as feathering.

G. The process used in thinning the hair.

H. The use of the razor in thinning or cutting wet hair.

I. Cutting the hair straight off,without tapering.

J. Cutting and shaping the hair at the nape of the neck into a "V", oval, or round shape or shingling the hair into a featheredge effect.

HAIR SHAPING TERMS
ANSWER KEY

1. F
2. G
3. E
4. I
5. A
6. H
7. D
8. B
9. C
10. J

SHAMPOOING & RINSING

1. Why do we shampoo the hair?

   A.

   B.

2. The purpose of a _____ is to clean the hair and scalp.

3. Water can be described as hard or soft.

   What is soft water? _____.

   What is hard water? _____.

4. To make an intelligent choice of which shampoo to use, the cosmetologist should know these three things:

   a. _____

   b. _____

   c. _____

5. Name some types of hair that are not considered normal.

   a. _____

   b. _____

   c. _____

6. What six materials are necessary to gather before you shampoo?

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   f. _____

7. Brushing should always be a part of both shampoo and scalp treatments with these four exceptions:

   a. Do not brush before _____.

   b. Do not brush before _____.

   c. Do not brush before _____.

   d. Do not brush if _____.

8. Brushing the hair is excellent for the scalp and hair. Name three benefits of brushing the hair.

   1. _____

   2. _____

   3. _____

9. Usually use _____water to wash the hair of a customer.

10. To test the water temperature before shampooing the hair, the cosmetologist should _____.

SHAMPOO & RINSING

ANSWER KEY

1. Clean hair and scalp

   Better results in working with hair

2. shampoo

3. soft water - lathers freely, good for shampooing, few minerals in water

   hard water - contains minerals, does not lather, does not rinse clean easily

4. 1. pH of shampoo, contents of shampoo

   2. how it works

   3. will it work effectively

5. 1. sun bleached

   2. tinted

   3. permanent waved

   4. lightened

6. 1. shampoo

   2. hair rinse

   3. shampoo cape

   4. comb & hair brush

   5. neck strip

   6. towel

7. 1. Do not brush before giving a lightening treatment.

   2. Do not brush before application of a tint or toner.

   3. Do not brush before giving a permanent wave.

   4. Do not brush if scalp is irritated.

8. 1. Stimulates scalp

   2. Removes dust and dirt

   3. Gives added sheen

9. warm

10. Spraying water on the wrist

NAME_____ DATE_____

PIN CURLS

1. Pin curls are also called _____.

   a. roller curls
   b. skip wave curls
   c. sculpture curls

2. The three principal parts of a pin curl are the base, the circle and the _____.

   a. clockwise
   b. nape
   c. stem

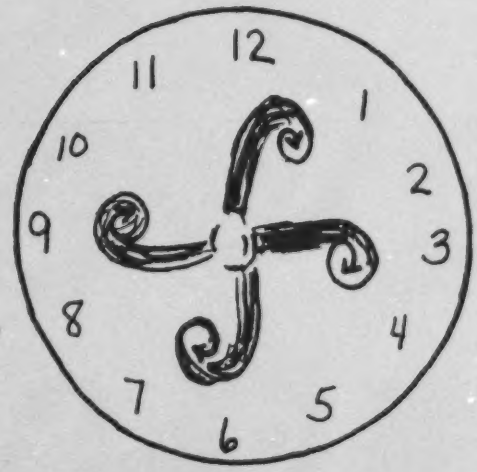
3. The part of the curl that is attached to the scalp is the _____.

   a. stem
   b. base
   c. circle

4. Label the curls below either clockwise or counter-clockwise.

A. _____

B. _____



PIN CURLS

ANSWERS:

1. C

2. C

3. B

4. counter-clockwise

5. clockwise

HAIRSTYLING

USE THESE WORDS:

pompadour	side
flat	round
forward	reverse
tapered	teasing
triangular	facial
combed	blunt

1. When the hair ends are wound inside the pin curl, they should lie _____and smooth on the base.

2. Usually pin curls are set on a _____base to assure a smooth even wave without breaks or splits across the front hairline.

3. The _____pin curl means the pin curl is formed by shaping the curl away from the face.

4. The _____pin curl is formed by shaping the curl toward the face.

5. Each pin curl should be anchored on its base in the direction in which it will be styled or _____.

6. To create the illusion of minimizing the width of the forehead, a _____part is recommended.

7. The way in which the hair is parted varies with the patron's _____type and the particularly hairstyle desired.

8. Another term used to describe back-combing _____.

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HAIRSTYLING

ANSWER KEY

1. flat
2. round
3. reverse
4. forward
5. combed
6. side
7. facial
8. teasing

HAIRSTYLING TERMS

USE THESE WORDS:

Cascade curl	Sculpture curl
Skip wave	Ridge curl
Roller curl	Bouffant
Reverse curl	Teasing
Stand-up curl	Molding
Strand	Forward curl

A. _____ Another name for a pin curl.

B. _____ A curl with the stem directed straight up from the hair.

C. _____ A curl placed behind and close to the ridge of a finger wave.

D. _____ A wave formed by a combination of alternating ridges and curls.

E. _____ The degree of height or fullness in a finished hairstyle.

F. _____ Another name for a cascade curl.

G. _____ A curl directed toward the face.

H. _____ A curl directed away from the face.

I. _____ Another term for back-combing.

HAIRSTYLING TERMS

ANSWER KEY

A. Sculpture curl

B. Cascade curl

C. Ridge curl

D. Skip wave

E. Bouffant

F. Stand-up curl

G. Forward curl

H. Reverse curl

I. Teasing

PIN CURL

1. What are the three principal parts of a pin curl?

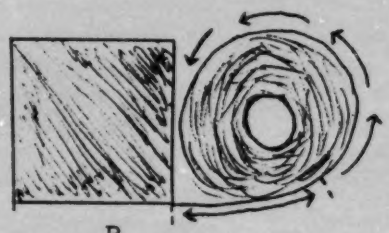
   1. _____

   2. _____

   3. _____

2. Label the parts of this pin curl.

A. _____



C. _____

B. _____

3. The _____ is the stationary or immovable foundation of the curl, which is attached to the scalp.

4. The _____ is that part of the pin curl, between the base and the circle, which gives the circle its direction.

5. The _____ is that part of the pin curl that forms a complete circle.

6. Pin curls are also called _____ curls.

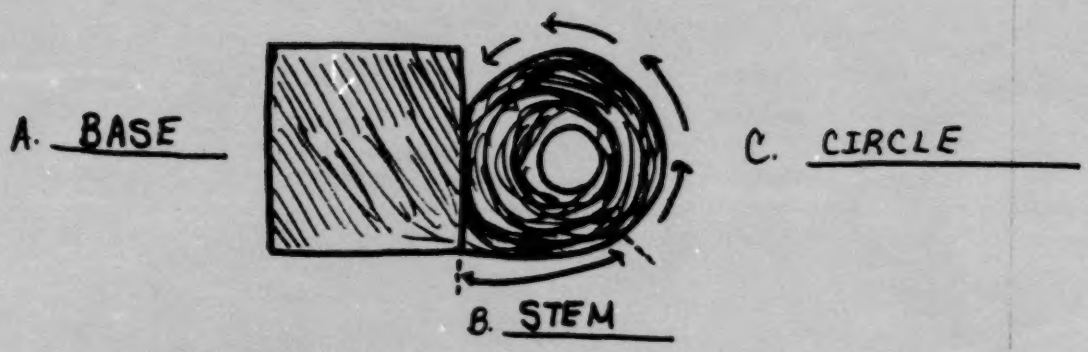
7. Which type of hair is best suited for pin curls?

   _____

PIN CURL
ANSWERS:

1. 1. base
   2. stem
   3. circle

2.



3. base

4. stem

5. circle

6. sculpture

7. naturally or permanently waved hair

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IDENTIFY THE

FACIAL SHAPES

1. _____

2. _____

4. _____

3. _____

5. _____

6. _____

7. _____

FACIAL SHAPES

1. Square shaped face
2. Heart shaped face
3. Oblong shaped face
4. Pear shaped face
5. Oval shaped face
6. Round shaped face
7. Diamond shaped face

CHEMICAL HAIR RELAXING

Do you agree or disagree? If you agree with the sentence write A, if you disagree write D.

1. Inspecting the scalp before giving a patron a chemical hair relaxing treatment is not necessary. _____

2. If a pull test determines hair to have average elasticity the cosmetologist need not do a relaxer test. _____

3. A retouch is applying chemical hair relaxer only to the new growth of hair. _____

4. A conditioner is applied to protect against damage and breakage. _____

5. Harsh chemicals may cause skin irritation. _____

6. Manufacturer's directions need not be followed if you have given several chemical hair relaxing treatments. _____

7. Hair with good porosity will require less processing time. _____

8. Chemical hair relaxer may cause burns to the scalp. _____

9. Following a chemical hair treatment, a scalp oil or cream is recommended to restore the natural hair oils. _____

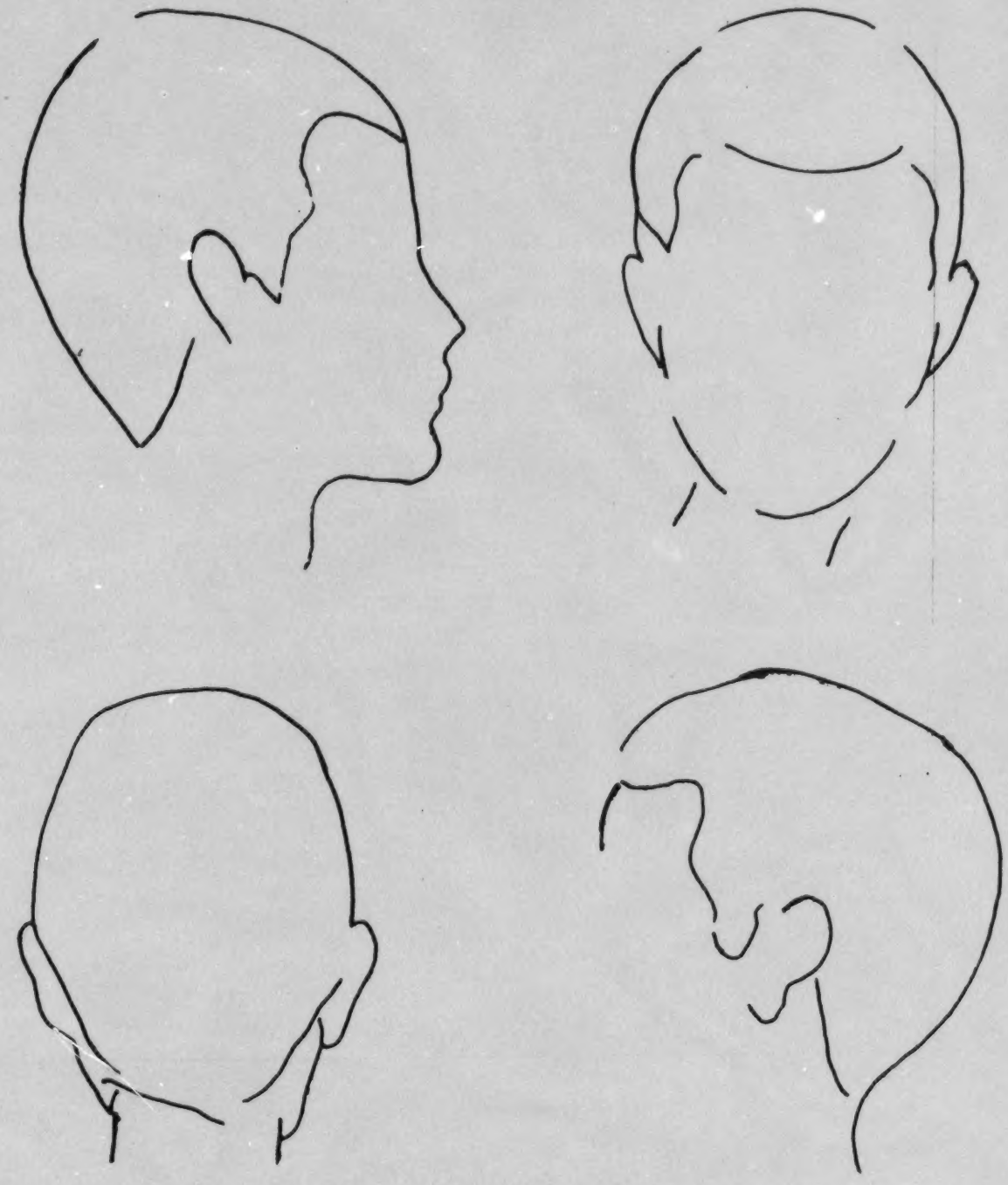
10. Sodium hydroxide and ammonium thioglycolate may be harmful to the cosmetologist's hands. _____

CHEMICAL HAIR RELAXING

ANSWERS

1. D
2. D
3. A
4. A
5. A
6. D
7. A
8. A
9. A
10. A

Before any chemicals are applied to the hair, the hair must be divided into five sections. Draw these five sections on the heads below.



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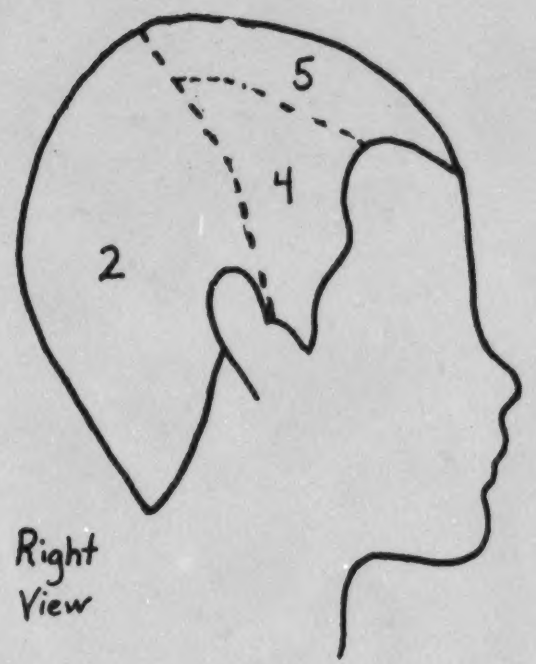
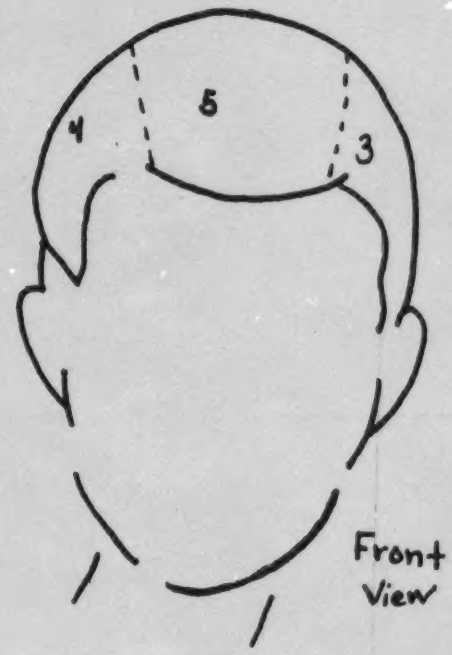
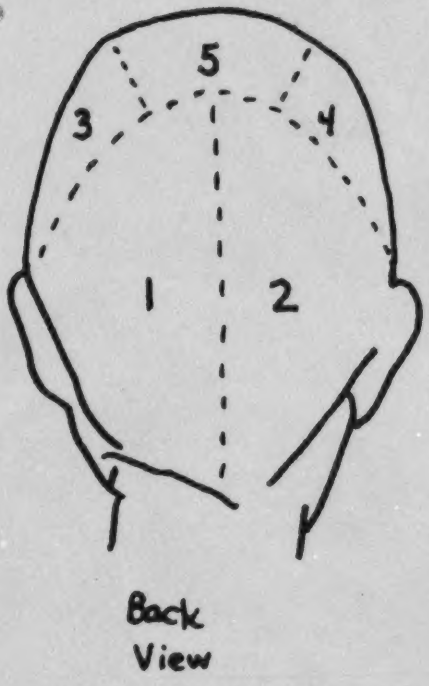
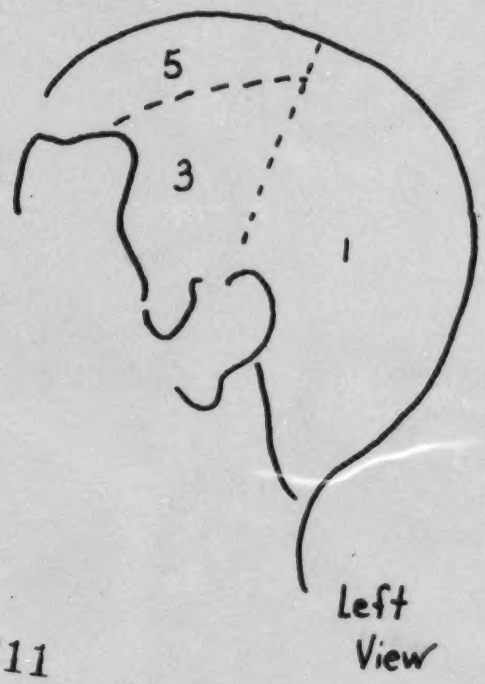
CHEMICAL HAIR RELAXING

ANSWERS:









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BUBBLEGRAM

To solve this puzzle, look at the definitions below. Think of a word that has to do with chemical hair relaxing, fits the definition, has the same number of letters as the number of spaces given and has the given letter in the same position, as indicated. Write the word on the line. The first one is done for you.

```
1.
2.                    S C A L P
3.        _ _ _ _ _ _   H _ _ _ _ _ _ _ _
4.                    _ E _ _ _ _ _ _
5.    _ _ _ _ _ _ _ _ _ M
6.                _ _ _ _ I _ _ _ _ _
7.                        C _ _ _ _ _ _ _ _ _ _
8.                  _ _ _ A _ _ _ _ _ _ _
                _ _ _ _ _ _ L _ _ _ _
9.
10.                       R _ _ _ _ _ _
11.               _ _ _ _ E _
12.                   _ _ L _ _ _ _ _
13.                 _ _ _ A _ _ _ _
14.                   _ _ X _ _ _ _ _
15.                   _ _ I _
16.                       N _ _ _ _ _ _ _ _
                    _ _ _ G _ _ _ _ _ _
```

DEFINITIONS

1. Before beginning a chemical relaxing treatment, the cosmetologist should examine this for cuts or sores.
2. One of the two general classifications of hair relaxers.
3. Sodium hydroxide and ammonium thioglycolate are two types of these.
4. Used to help restore the natural oils to the scalp after a chemical hair relaxing treatment.
5. Another name for neutralizer or fixative.
6. It is applied to the hair to help restore its strength and give it body in order to protect it against possible breakage.
7. A trial examination to see if the hair will chemically relax.
8. Another name for fixative. It stops the action of the chemical relaxer and reforms the cystine bonds in their new position.
9. An application of the chemical hair relaxer to the new hair growth.
10. Put on the hands to protect them from the harsh chemicals used during chemical relaxing treatments.
11. It will determine the degree of elasticity in the hair.
12. Chemical hair relaxing will leave the hair this way.
13. Another name for stabilizer or neutralizer.
14. The shortened abbreviation for ammonium thioglycolate relaxer.
15. A retouch is given to cover this.
16. Determines the degree of porosity in the hair.

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BUBBLEGRAM - ANSWER

CHEMICAL HAIR RELAXING

1. S C A L P
2. S O D I U M H Y D R O X I D E
3. R E L A X E R S
4. S C A L P C R E A M
5. S T A B I L I Z E R
6. C O N D I T I O N E R
7. R E L A X E R T E S T
8. N E U T R A L I Z E R

9. R E T O U C H
10. G L O V E S
11. P U L L T E S T
12. S T R A I G H T
13. F I X A T I V E
14. T H I O
15. N E W G R O W T H
16. F I N G E R T E S T

NAME _____ DATE _____

Match the following terms with each definition.

toner	stripping	color filler	tint removal
retouch	color testing	highlighting	toning down
softening	skin test	pre-lightening	overlapping
developer	virgin hair	oxidation	pre-softening
allergy	blending	tint back	color listing

a. _____ Application of coloring or lightener to the new growth of hair.

b. _____ The use of a dye solvent, lightener or softening treatment to remove an unsatisfactory shade of tint from the hair.

c. _____ A condition caused in a retouch by having a tint or lightener overlap any part of the previously tinted or lightened hair.

d. _____ Procedure to determine whether or not a person is allergic to an aniline derivative tint.

e. _____ Removing some color from the hair before a tint.

f. _____ Coloring the hair to its natural shade.

g. _____ Application of a lightener to soften resistant hair and make it more receptive to the tint.

h. _____ A substance used to equalize porosity and deposit a basic color on over-porous hair so that it can take and hold color evenly.

i. _____ Brightening effect on the hair by means of suitable color tones or a lightener.

j. _____ Making a uniform color throughout the hair during hair coloring applications.

k. _____ Method of determining the action of a selected tint on a small strand of hair.

l. _____ Another term for softening the hair before tinting.

m. _____ Chemical reaction which takes place when peroxide and tinting solution are mixed and applied to the hair.

n. _____ Hypersensitivity to cosmetics, tints, food or other substances.

o. _____ Hair which has neither been lightened nor tinted.

p. _____ An aniline derivative tint applied to highly lightened hair to produce blonde, silver and pastel shades.

q. _____ An oxidizing agent, such as hydrogen peroxide, which is mixed with tint and supplies oxygen.

r. _____ The removal of natural hair pigment coating or penetrating tint from the hair.

ANSWER SHEET

a. retouch

b. tint removal

c. overlapping

d. skin test

e. pre-lightening

f. tint back

g. softening

h. color filler

i. highlighting

j. blending

k. color listing

l. pre-softening

m. oxidation

n. allergy

o. virgin hair

p. toner

q. developer

r. stripping

HAIR COLORING

```
B R Y W U F X A B R A S I O N S I B F A
I V Y M J Q S D H S P U S O M H T F H I
I G S Q N A E C F B J N E A B N O Z N M
R X I W J R N I O I L V N H T V N K A I
B H O K Z O S U U R O E W I Z U E M N X
G R L A T S I U V S T E A L D E R V W T
C G N P G T T H B W Q E H C R W N A N U
M E A P K G I A K S A A X D H L F G T R
O O J L T B V D X D E M E N L M P Y K E
Y V E I G C I S X D U C E W U A G T D Z
P E T C D Y T U W T J N T N G R N I M E
V D I A G S Y H E J I T I I E L Y N C J
K V R T R E T O U C H T Y L O A B T C B
B V E I X M E N G Q A B L C C N S A C D
Y K G O Q H R B H L K A B S A C Q L V Y
T Z R N S K L W P K T V T O Z H M E L H
Q A O A X N U S S X D Z H Q W J O S P R
N P W N K U Y S K K A J I D Y E V C S K
Z V T L F C B N W M A K Q C M X Z U S X
N J H C L I E N T F I X L O Y N Z W V B
```

THERE ARE 17 WORDS HERE - CAN YOU FIND THEM?

HERE ARE THE WORDS TO LOOK FOR:

ABRASIONS
APPLICATION
CLIENT
CROWN
MIXTURE
REGROWTH
SATURATE
SUBSECTION
TONER
ALLERGY
BLEACH
CORTEX
DYE
PLATINUM
RETOUCH
SENSITIVITY
TINT

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HAIR COLORING

```
. . . . . . . A B R A S I O N S . . . .
. . . . . . S . . . . . S . . . T . . .
. . . . N . E C . B . . . A . . O . . M
. . . W . . N . O . L . . . T . N . . I
. . O . . . S . . R . E . . . U E . . X
. R . A . . I U . . T . A . . . R . . T
C . . P . . T . B . . E . C . . . A . U
. . . P . . I . . S . . X . H . . . T R
. . . L . . V . . . E . . . . M . Y . E
. . . I . . I . . . . C . . U . G T . .
. . . C . . T . . . . . T N . R . I . .
. . . A . . Y . . . . . I I E . . N . .
. . R T R E T O U C H T . L O . . T . .
. . E I . . . . . A . L . . N . . . .
. . G O . . . . . L . A . . . . . .
. . R N . . . . P . . . . . .
. . O . . . . . .
. . W . . . . . D Y E . . . .
. . T . . . . . .
. . H C L I E N T . . . . . .
```

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HAIR COLORING

1. What is the difference between hair coloring and hair lightening?

   _____

   _____

2. What are the major reasons why a patron would choose to have his/her hair colored?

   1. _____

   2. _____

   3. _____

3. What do the words virgin hair mean?_____

   _____

4. To which section of the hair shaft is a tint or color retouch applied?

   _____

5. A skin or patch test is generally given in one of two areas. These are:

   1. _____

   2. _____

6. A patch test should be examined for a positive or negative reaction after _____hours.

7. To proceed with the hair coloring treatment, the skin test should be _____.

   a. a negative skin test

   b. a positive skin test

8. What signs might a cosmetologist recognize if the patron was allergic to the dye or tint? 1. _____

   2. _____

   3. _____

   4. _____

HAIR COLORING
ANSWER KEY

1. Hair coloring involves adding color to the natural pigment in the hair.

   Hair lightening involves partial or total stripping or removing of the natural pigment.

2. 1. Color grey hair

   2. Change their color to a more attractive color

   3. Add interest - highlights, frosting, etc.

3. Hair that has not been colored or treated to lightening procedures.

4. Scalp to beginning of previously colored or lightened hair.

5. Behind the ear - Inner elbow

6. 24 hours

7. A

8. 1. swelling of patch area

   2. itchy red spots, a rash

   3. tiny blisters or bumps

   4. headaches, upset stomach

HAIR LIGHTENING

___1. There are ___ stages in lightening hair from black to a pale yellow.

___2. The lightening agent that removes or strips pigment from the hair shaft is _____.

A. ammonium thioglycolate
B. hydrogen peroxide
C. sodium hydroxide
D. boric acid

___3. Which of the dirctions listed below should not be followed by a cosmetologist appling a toner retouch?

A. Give a 24-hour patch test.

B. Do not apply a toner if the scalp has any irritaions or open cuts.

C. Use only metal bowls and utensils when preparing or appling a toner.

D. Always wear rubber or plastic gloves.

___4. The color pigment is found in the _____ hair layer.

A. cortex
B. cuticle
C. medulla
D. dermis

___5. Which hair color listed below contains the greatest amount of color pigment?

A. brown
B. red
C. black
D. blonde

___6. In order to achieve a pale, delicate color shade the cosmetologist would apply a _____.

A. toner
B. metallic dye
C. color rinse
D. metallic salt mixture

___7. Hair that has never been tinted, lightened nor dye processed is called _____.

A. damaged hair
B. natural shaded hair
C. reconditioned hair
D. virgin hair

___8. A _____ is usually recommended if a patron's hair is damaged. They range from pale blonde to dark brown in color shades.

A. developer
B. color filler
C. conditioner
D. tint back

___9. A tint back is _____.

A. changing the hair color back to its original or natural shade.

B. the name given to a home permanent

C. streaking the hair in the back section only

D. frosting the hair at the nape of neck only

___10. A heating cap is used in the hair coloring or lightening process _____.

A. to keep the head warm

B. to keep the color treatment a secret

C. to hasten the coloring process

D. to keep the dye out of the patron's eyes

___11. Which of the statements below does <u>not</u> accurately describe the qualities of a semi-permanent hair coloring?

A. It lasts from 4-6 shampoos.

B. It does not contain peroxide.

C. It does not require a peroxide to develop the color.

D. It requires a peroxide base to develop the color.

___12. When a retouch application is given, the cosmetologist _____.

A. should not overlap the lightener with any part of the hair that has already been lightened

B. should give a 24-hour patch test

C. should overlap the new lightener to insure proper coverage

D. All of the above

E. A and B are correct

HAIR LIGTENING

ANSWERS

1. seven
2. B
3. C
4. A
5. C
6. A
7. D
8. B
9. A
10. C
11. D
12. E

THE SKIN

Often an author will define an important term in the sentence that introduces it. Clue words help the reader to identify or give meaning to a word. Here are some clue words the author might use: is called, is defined as, means and that is.

Read each sentence below and write the definition of the term.

1. The sweat glands consist of a coiled base, or fundus, and a tube-like duct which terminates at the skin surface to form the sweat pore.

TERM	DEFINITION
Fundus	_____
	_____
	_____

2. The epidermis skin layer contains a dark skin pigment, called melanin that gives the skin its color.

TERM	DEFINITION
Melanin	_____
	_____
	_____

3. The oil glands secrete sebum which is defined as an oily substance that lubricates and preserves the softness of the skin and scalp.

TERM	DEFINITION
Sebum	_____
	_____
	_____

4. Sebaceous glands, or oil glands secrete sebum to keep the skin soft and pliable.

TERM	DEFINITION
Sebaceous gland	_____
	_____
	_____

5. The study of the skin, technically called dermatology deals with the diseases of the skin and their treatment.

TERM	DEFINITION
Dermatology	_____
	_____
	_____

THE SKIN

ANSWERS

1. A coiled base in the sweat gland.
2. A pigment that gives color to the skin.
3. An oily substance produced by the oil glands that lubricates and preserves the softness of the skin and scalp.
4. An oil gland that secretes sebum.
5. The science that deals with the study of skin, its diseases and their treatment.

BUBBLEGRAM

To solve this puzzle, look at the definitions below. Think of a word or words that has to do with the layers of the skin, fits the definition, has the same number of letters as the spaces given and has the given letter in the same position as indicated. Write the word on the line. The first one is done for you.

```
1.                  S T R A T U M  L U C I D U M
2.                                 _ A _ _ _ _ _ _ _  _ _ _ _ _
3.                      _ _ _ _ _ _ Y _ _ _ _ _ _
4.                                 _ E _ _ _ _
5.                        _ _ _ _ _ R _ _ _
6.                                   S _ _ _ _  _ _ _ _
7.                                 _ O _ _
8.                      _ _ _ _ _ _ F _ _ _ _ _  _ _ _ _ _ _
9.                                 _ _ T _ _ _ _
10.                          _ _ _ _ H _ _ _ _ _
11.                        _ _ _ _ _ E _ _ _
12.                                   S _ _ _ _
13.                                   K _ _ _ _ _ _
14.                                 _ I _  _ _ _ _ _ _
15.                      _ _ _ _ _ _ N
```

DEFINITIONS

1. The clear, transparent layer of the epidermis.
2. One of the two layers of the dermis, it lies directly under the stratum germinativum.
3. The type of "feeling" fibers which react to heat, cold, touch, pressure and pain.
4. The inner layer of skin; it is also called derma or true skin.
5. The outermost layer of the skin; it is also called the cuticle.
6. Another name for the epidermis.
7. A small opening of the sweat gland of the skin.
8. Another name for the sweat glands.
9. The outer layer of the hair shaft or another name for the epidermis.
10. The science of the study of the hair.
11. This gland secretes sebum.
12. The oily substance which lubricates and softens the skin.
13. The protein of which hair is made.
14. The sebaceous glands are another name for these.
15. The color pigment in hair and skin.

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BUBBLEGRAM - ANSWER KEY

LAYERS OF THE SKIN

1. STRATUM LUCIDUM
2. PAPILLARY LAYER
3. SENSORY NERVES
4. DERMIS
5. EPIDERMIS
6. SCARF SKIN

7. PORE
8. SUDORIFEROUS

9. CUTICLE
10. TRICHOLOGY
11. SEBACEOUS

12. SEBUM
13. KERATIN
14. OIL GLANDS
15. MELANIN

THE SKIN AND SCALP

USE THE WORDS BELOW TO FILL IN THE BLANKS.

1. The epidermis skin layer is also called _____ or _____.
2. The dermis skin layer is also called _____ or _____.
3. The epidermis contains _____which is the color pigment in the skin and hair.
4. The sebaceous gland secretes _____.
5. The sudoriferous gland excretes _____.
6. Subcutaneous tissue is a layer of fatty tissue found below the _____.
7. The _____contains four layers: the stratum corneum, stratum lucidum, stratum granulosum and the stratum germinativum.
8. The _____ layer is one of the dermis skin layers. It contains hair follicles, oil glands and sweat glands.
9. The sweat and oil glands are called _____ glands.

SCARF SKIN	SEBUM	DERMIS
CUTIS	TRUE SKIN	SENSORY
MELANIN	EPIDERMIS	RETICULAR
SWEAT	SECRETORY	CUTICLE

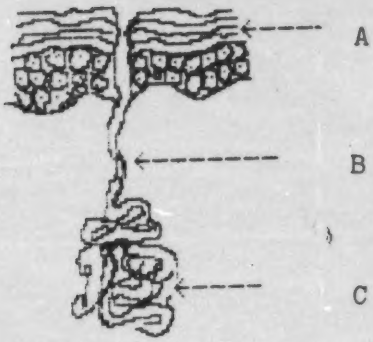
ANSWER KEY

THE SKIN AND SCALP

1. cuticle
   scarf skin
2. cutis
   true skin
3. Melanin
4. sebum
5. sweat
6. dermis
7. epidermis
8. reticular
9. secretory

SKIN AND SCALP

LABEL THE PARTS OF THE SWEAT GLAND AND THE OIL GLAND.



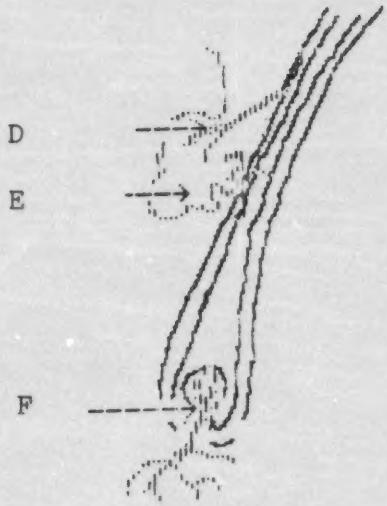
VISIBLE SKIN LAYER

A._____

SUDORIFEROUS OR SWEAT GLAND

B._____

C. _____



SEBACEOUS OR OIL GLAND

D._____

E._____

PROVIDES NOURISHMENT TO THE HAIR SHAFT.

F._____

G. The oil gland secretes_____.

H. Sebium is produced by the oil gland. Sebum is used to _____and _____the skin and scalp.

I. Sweat glands excrete sweat. They give off _____unwanted by the body.

J. Oil glands <u>secrete</u> sebum. Secrete means _____.

Sweat glands <u>excrete</u> sweat. Excrete means _____.

SKIN AND SCALP

A. epidermis skin layer

B. sweat duct

C. fundus

D. sebaceous or oil duct

E. sebaceous gland

F. papilla

G. sebum

H. soften
lubricate

I. waste materials

J. Secrete - to produce and give off a substance

Excrete - to eliminate - to get rid of waste products.

TRICHOLOGY - The Study of Hair

Cross Out the word that does not belong in the group

1. Duct glands - sweat glands
   ku klux glands
   oil glands
2. Layers found in hair - medulla
   cuticle
   papilla
3. Parts of the hair root - hair shaft
   hair bulb
   hair papilla
4. Functions of the hair papilla - produces sebum
   produces new hair cells
   supplies the hair with a rich blood and nerve supply
5. Important qualities by which hair is analyzed - porosity
   melanin pigment
   elasticity

Choose the correct definition for each underlined word.

6. The albino rabbit has blue eyes and pure white fur.
   A. abundance of melanin in the hair shaft.
   B. absence of melanin in the hair shaft.
   C. absence of keratin in the hair shaft.

7. Elaine and several other members of her family were affected with <u>premature</u> grayness.

A happening before the usual time.

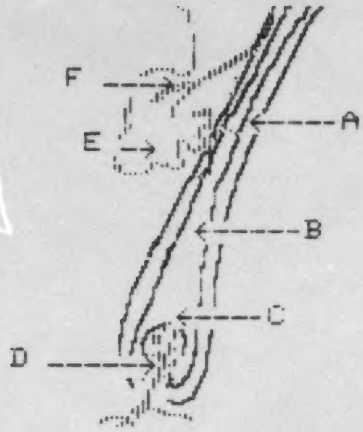
B happening after the usual time.

C unprepared when something happens.

TRICHOLOGY

Answers

1. ku klux glands
2. papilla
3. hair shaft
4. produces sebum
5. melanin pigment
6. B
7. A



HAIR ROOT

1. LABEL THESE PARTS

A. _____

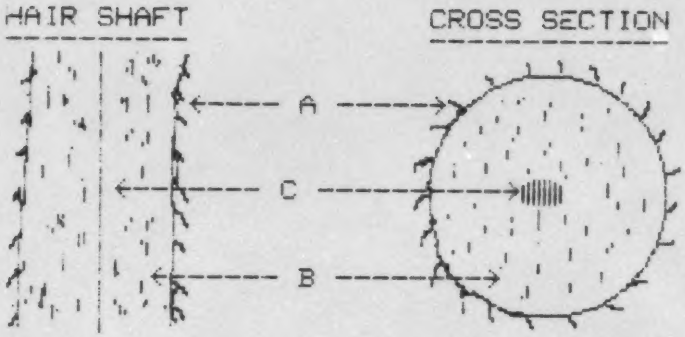
B. _____

C. _____

D. _____

E. _____

F. _____



2. HAIR SHAFT

A. _____

B. _____

C. _____

3. Write the correct word in the space provided at the bottom of the page.

The hair shaft is composed of three layers of cells: the ___, ___and ___layers. The ___is the outside layer. It is the visible hair layer consisting of layers of scale-like cells. Perm solutions must penetrate the scale-like cuticle layer to change bonds of the cortex.

The cortex layer is the middle or inner layer. This layer contains the ___that gives the hair its color.

The medulla is the innermost layer of the hair shaft. The ___ may be absent in fine and very fine hair.

A._____ C._____ E._____

B._____ D._____ F._____

TRICHOLOGY

HAIR ROOT

A. Hair Follicle

B. Hair Root

C. Hair Bulb

D. Papilla

E. Sebaceous duct or oil duct

F. Sebaceous gland or oil gland

HAIR SHAFT

A. Cuticle

B. Cortex

C. Medulla

A. Cuticle

B. Cortex

C. Medulla

D. Cuticle

E. Pigment or melanin

F. Medulla

TRICHOLOGY

_____1. Hair is composed of a protein called _____.

a. melanin b. sebum
c. keratin d. cortex

_____2. The _____produces hair cells and provides the nourishment to keep the hair healthy.

a. papilla b. hair stem
c. hair bulb d. hair root

_____3. The _____fits over and surrounds the hair papilla. It also forms the lower part of the hair root.

a. hair follicle b. hair shaft
c. arrector pili d. hair bulb

_____4. The _____is a muscle attached to the hair follicle. Fear or cold contracts this muscle causing goose bumps.

a. arrector pili b. orbicularis oculi
c. platysma d. temporalis

An analogy is a relationship between word pairs. The following questions are analogies. Fill in the correct word in the space provided.

1. The sebaceous gland produces sebum. The sudoriferous gland produces _____.

2. The hair shaft is the part of the hair above the skin. The _____is the part of the hair that lies within the follicle under the skin.

3. Black hair contains the greatest amounts of melanin. A (n) _____is a person that would have white hair containing no coloring pigment.

4. Cuticle hair scales are to the stratum corneum skin layer as the medulla is to the _____ skin layer.

a. papilla b. dermis
c. Fundas d. Sudoriferous

5. The fundus is to the sweat gland as the oil _____ is to the oil gland.

a. sweat pore b. duct
c. melanin d. receptor

6. The stratum germinativum produces new cells for the growth of the epidermis skin layer. The _____ provides the nourishment to the hair and produces new hair cells.

a. hair bulb b. hair follicle
c. hair root d. papilla

733

TRICHOLOGY

1. B
2. A
3. D
4. A
5. 1. sweat
   2. hair root
   3. albino
   4. b
   5. b
   6. d

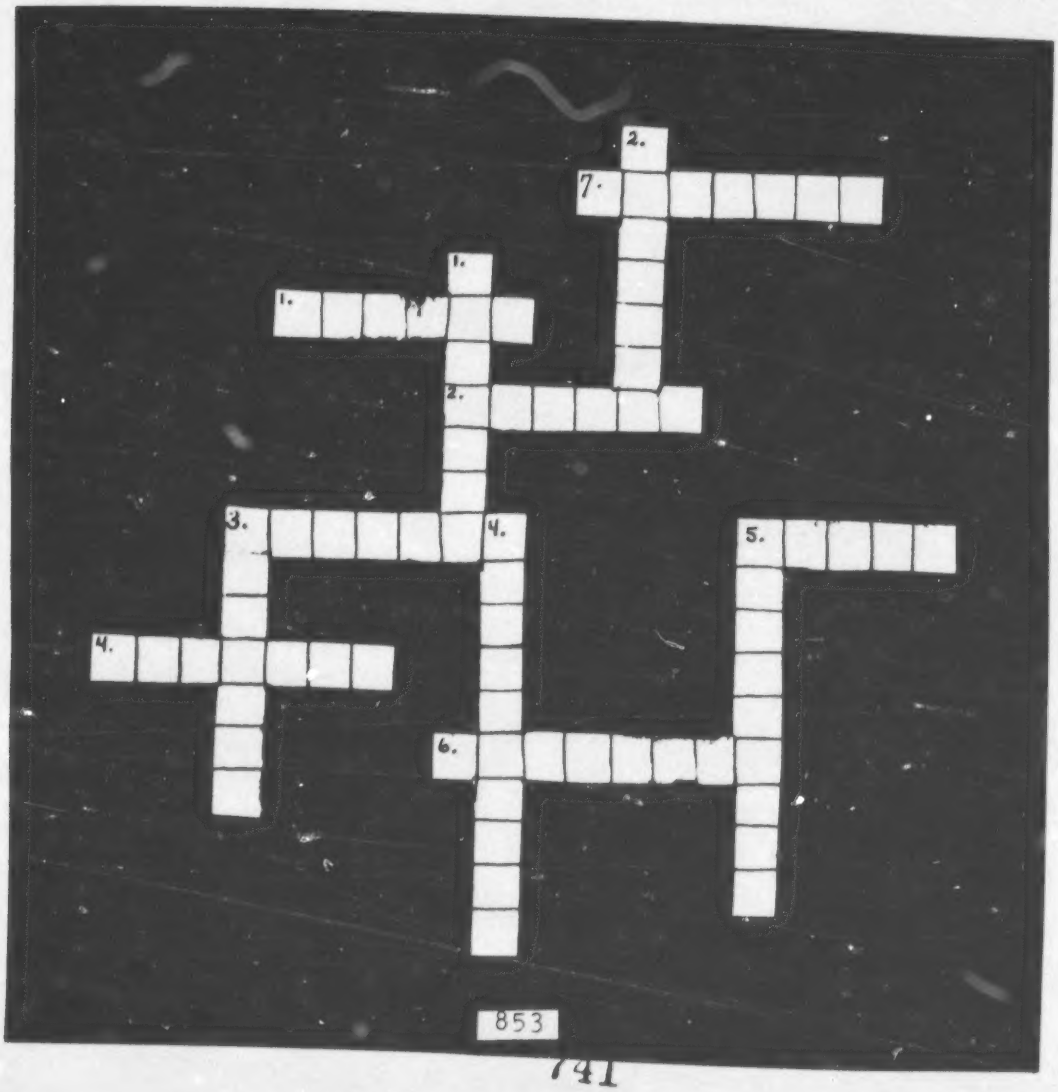
TRICHOLOGY - THE STUDY OF THE HAIR

DOWN

1. The pigment in the epidermis skin layer. It gives color to the skin and hair.
2. The prctein substance of which the hair is made.
3. It fits into the hair bulb. It provides the rich blood & nerve supply that nourishes the hair.
4. The study of the hair.
5. The gland that produces the oil in the skin and scalp.

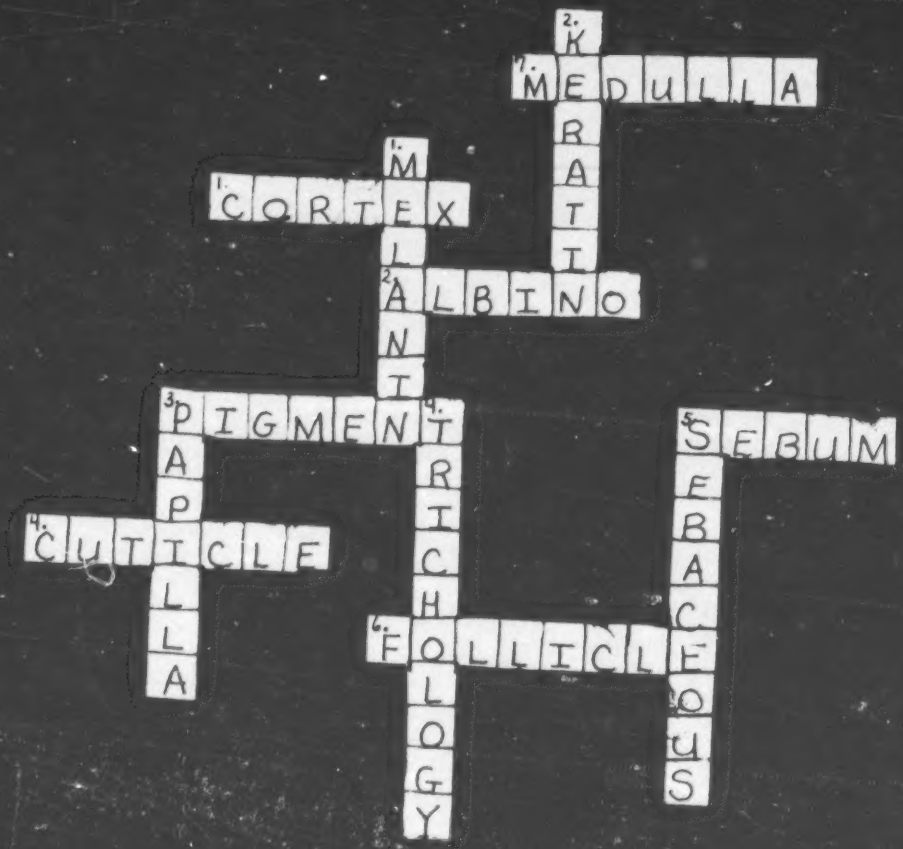
ACROSS

1. The middle or inner layer of the hair. It contains the pigment that gives the hair its color.
2. The absence of coloring matter in the hair shaft and eyes.
3. Any coloring matter.
4. The scale-like outer layer of the sebaceous gland.
5. The oily substance produced by the sebaceous gland.
6. The pocket of skin that surrounds the hair root. It lies below the surface of the skin.
7. The inner layer of the hair shaft. This layer is not present in all hair.



ANSWER KEY - CROSSWORD PUZZLE

TRICOLOGY - THE STUDY OF THE HAIR



TRICHOLOGY

1. The study of the hair is a science called _____ .

2. Hair serves two major purposes. These purposes are:

   1. _____

   2. _____

3. Hair is made of a protein called _____.

4. The hair root is the part of the hair that lies beneath the skin surface. The _____ _____is the part of the hair that can be seen by the eye. It extends above the skin surface.

5. Define the following terms:

   A. hair follicle _____

   B. hair bulb _____

   C. papilla_____

   D. arrector pili muscle _____

6. The sebaceous gland produces a substance called sebum. Sebum gives the hair a shine and soft flexibility. When the sebaceous gland overproduces sebum _____will occur.

7. _____hair is the soft, fine hair found on the cheeks and forehead.

8. The technical terms given to hair on the head and face are listed below. Write the specific hair location for each term.

   A. Cilia _____

   B. Supercilia _____

   C. Capilli _____

   D. Barba _____

9. A normal adult will lose or shed about _____hairs per day.

TRICHOLOGY

ANSWER KEY

1. Trichology

2. a. protect the head from cold, heat and injury

   b. compliment the features of the female or male

3. Keratin

4. Hair shaft

5. Follicle - surrounds the hair root - the pocket in the scalp that encases the hair root

   bulb - lower part of hair root - a club-shaped lower part that fits over the papilla

   papilla - provides nourishment to hair, produces new hair cells

6. Dandruff

7. Lanugo

8. a. eyelashes

   b. eyebrows

   c. head

   d. face

9. 50 to 80

Epilogue

OCCUPATIONAL LEARNING MODULES

OSWEGO COUNTY BOCES

HISTORY - In order that reading materials in occupational areas could be rewritten to better approximate students' abilities, a VEA Grant (State Grant No. 81-3A-9111GS) was submitted and funded in April, 1980.

OBJECTIVE - To provide a means for "reading limited" students to meet course objectives and to gain or review information in a concise manner through interaction with a microcomputer.

PROGRAM DESCRIPTION - Each occupational lesson programmed on an APPLE II Microcomputer begins with a vocabulary and glossary section, followed by reading passages and visual reinforcements, and concludes with questions which check student comprehension. Additional worksheets are also provided to supplement and insure content mastery.

EQUIPMENT UTILIZED - Programs are written for use with a single drive APPLE II Microcomputer with at least 32K RAM. While pictures are programmed in color, a color monitor is not essential.

For further information contact:

KATHY FINNERTY
RESOURCE COORDINATOR
OSWEGO COUNTY BOCES
MEXICO, NEW YORK 13114

DIRECTIONS FOR STUDENT USE

*Note to Instructor:
When using a 3.3 Apple insert DOS 3.3 BASICS diskette to downgrade the computer.

1. Carefully insert the diskette into the disk drive slot. Close the disk drive door.

2. Turn the computer on. The "on" button is a flip switch located on the lower-left hand corner on the back of the computer. You will hear the disk drive running and notice a small red light which indicates that the program is being loaded. Do not try to remove or insert a disk while the red light is on!

3. Turn on the monitor or T.V.

4.
```
1) HAIRSTYLING TECHNIQUES
2) ROLLERS
3) ROLLER BASE
4) COMB-OUT

ENTER THE NUMBER OF YOUR
CHOICE -
```

This is the "menu". It tells the lessons you may choose from on this diskette. There are four lessons on this illustrated disk.

5. To select a program, type the numeral of the lesson desired. You will note that some diskettes offer only one lesson. Press the RETURN key after typing the lesson number.

6.
```
PLEASE TYPE IN YOUR NAME -
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7. Type in your first name. Press the SPACE BAR.
   Type in your last name. Press the RETURN key.

8. Read the text pages at your own pace. When you have finished reading each page, press the RETURN key. Progress through lesson diskette.

9. When you reach the end of the lesson you will be asked to answer some questions about what you read. Read each question and answer it carefully. Choose the response you feel best answers the question. Type in the letter A, B, C or D. Press the RETURN key.

10. If your response was correct, you will be told it was correct and you will be given the next question. If your response was wrong, a page of the text containing the answer will appear on the screen. When you have finished reading it, press the RETURN key. You will then be asked the question you have missed.

11. The last page of the lesson disk will give the number of questions attempted and the score earned for that lesson. For a score of 70% or better, you will earn a chance to play a vocabulary game.

12. DO YOU WANT DIRECTIONS?

13. Type YES.

14. This game is a variation of the hangman game. The computer has selected one vocabulary word from the lesson just completed. The number of letters in this unknown word appear as spaces under a man on the dock. As you guess letters, a correct guess will position the letter in its proper place within the word. An incorrect guess will place the letter on the row labeled "WRONG". After each incorrect guess the man will take one step closer to the end of the dock. Too many incorrect guesses plunges the man into the water.

15. Press RETURN.
    Type the letters you think are in the mystery word. You do not need to press return between guesses.

16. When the game is finished, turn off the computer and monitor. Take the diskette out of the disk drive. Place the diskette in its protective jacket and file in its proper place.

HOW TO HANDLE COMPUTER DISKS

1. DO NOT REMOVE A DISK FROM THE DISK DRIVE WHILE THE RED LIGHT IS ON.

2. NEVER TOUCH ANY PART OF THE DISK THAT IS NOT COVERED WITH CARDBOARD.

3. DO NOT SET THE DISK ON THE TELEVISION OR ANY PART OF THE "APPLE" COMPUTER.

4. ALWAYS MAKE SURE THE DISK IS IN A "JACKET" WHEN NOT IN USE.

5. DO NOT BEND OR FOLD DISKS.

6. WHEN PUTTING IN OR REMOVING A DISK FROM THE DISK DRIVE, DO SO GENTLY, DO NOT TRY TO FORCE THE DISK.

7. PLEASE REMEMBER NO FOOD OR BEVERAGE WHILE YOU ARE WORKING IN THE COMPUTER AREA.

RECORDING STUDENT SCORES

*** When using a 3.3 Apple insert BASICS diskette to downgrade the computer.**

1. Insert Mod-Maker.

2. Turn on Apple and monitor.

3. A menu of options will appear.
   Type - 1 Press - RETURN

4. Follow the instructions on the screen. Remove the Mod-Maker and insert the lesson disk on which the students' scores were saved. Type YES. The computer will engage the printer automatically.

Scores recorded on each lesson disk should be taken every two weeks. A buildup of student scores on a disk could interfere with the disk's operation.

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